CONVENTION ISSUE

# INFORMATION LETTER

Not for Publication — NATIONAL CANNERS ASSOCIATION — For Members Only

No. 1622 — Washington, D. C. — February 28, 1957

# Proceedings of the 50th Annual Convention

## NEWS SUMMARY

THE FORMAT of N.C.A.'s Golden Anniversary Convention produced four general sessions. Each is reported in detail, together with manuscripts submitted by the guest speakers:

Annual Meeting, with election of Officers and Directors, Convention Resolutions, and addresses by J. Roger Deas and Howard Pyle..pp. 48-60
Research and Production..pp. 61-68
Raw Products Research....pp. 69-74
Marketing and Sales.....pp. 75-79

LUNCHEON MEETINGS covered subjects of special interest to selected groups. All of the manuscripts made available for publication are presented:

Food Editors Conference...pp. 80-90
Instrumentation .....pp. 91-99

THE N.C.A. BOARD OF DIRECTORS met in closed session, following an address by H. Thomas Austern, observing his 25th year as Counsel to the Association.....pp. 106-109

THE GOLDEN ANNIVERSARY BANQUET, attended by 800, commemorated informally the N.C.A.'s 50 years of progress.....pp. 43-47

1958 CONVENTION to be held in Atlantic City in January.....p. 47

DIRECTOR OF N.C.A. RESEARCH appointed .....p. 90

AGITATING PROCESSES discussed by Processing Subcommittee...p. 105

The 50th Anniversary Convention of the National Canners Association in Chicago, February 16-19, 1957, cast an over-the-shoulder glance now and then at N.C.A. history, but program-wise fulfilled the more important assignment laid down by the Convention Program Committee of carrying out the theme, "Look to the Future."

President William U. Hudson, presiding over the four general sessions, epitomized this two-fold character of the Convention as he concluded his opening remarks with the apt phrase: "As we celebrate our Golden Anniversary, there are golden opportunities ahead."

There were important tributes to N.C.A.'s history and accomplishments: a letter from the Food and Drug Administration; a cablegram from the Comité International Permanent de la Conserve, the European organization of commercial canners; anniversary plaques from the Canning Machinery and Supplies Association (also celebrating its 50th anniversary) and the National Food Brokers Association; salutes to N.C.A.'s birthday in publications, broadcasts and telecasts by numerous individual firms and associations in the trade; frequent congratulatory references by the speakers on the program, especially the 50-minute address by J. Roger Deas, the American Can Company orator, to which

1957 OFFICERS OF THE N.C.A.

*(left to right)*

Vice President Edward E. Burns, President A. Edward Brown, and Executive Secretary-Treasurer Carlos Campbell.

## Convention Proceedings

*(Continued from page 43)*

President Hudson referred as "an inspiring review of the history and social significance of the great event we are celebrating."

And there was the 50th Anniversary Banquet at the Palmer House Sunday evening, February 17, with 15 past Presidents of the N.C.A. at a special tiered table, one of them—John F. McGovern, 1949 President—appearing as master of ceremonies. This event was featured not only by Mr. McGovern's witticisms and eloquence, but also by a special nostalgic script reviewing 50 years of Americana which included frequent references to Association and industry progress and was dramatized by professional singers and dancers. And each of the 800 diners took home a souvenir long-playing record to remind them of these events.

Convention literature—printed programs, hotel room directory, menu cards, clips and stickers, signs, placards, posters, streamers, decorations—graphically reminded the 18,000-odd Convention delegates—canners, brokers, buyers, machinery and supply exhibitors, and guests of these groups—that the Convention was also a 50th birthday.

The meeting format was an innovation this year. Instead of an opening and closing general session, plus special technical meetings for laboratory, raw products, and marketing specialists, the program this year featured four general sessions, each having its own type of emphasis, plus a special program for invited food editors. The technical specialists had a series of daily luncheon meetings and programs following the respective general sessions. In each case the speeches, papers, statements and general emphasis was on the theme of looking to the future. Professional entertainers, obtained through Jack Morton Productions, staged skits and parades in the lobby, on the grand staircase of the Hilton Hotel, and in the meeting rooms immediately preceding each session along with special music each

### GOLDEN ANNIVERSARY BANQUET

Prints of this photograph (left) of the N.C.A. Golden Anniversary Banquet are available from the photographer. Prints measure 12 by 20 inches. Orders should identify the photo as being of the N.C.A. Banquet and should be accompanied by check or money order for $2.50 made payable to Oscar and Associates Inc., and sent to that firm at 63 East Adams St., Chicago 3, Ill.

time. Each stunt was tuned to the specific character of the given session.

Highlights of the general sessions will be presented in the following paragraphs, but in other parts of this Convention issue of the INFORMATION LETTER, full reproductions of the Convention papers, along with identities of the speakers, are presented.

### Opening General Session

*Introductory Skit*—Miss Canned Foods of 1907, Miss Canned Foods of 1957, and Miss Futuristic Canned Foods, pretty models attired in the garb of the periods they were depicting, paraded from the grand lobby up to the meeting room, along with a Scotch kiltie band, and staged a concert and parade in front of the speakers' platform.

*President Hudson* stated: "This Golden Anniversary commemorates the founding of the National Canners Association 50 years ago at Buffalo, N. Y., February 12, 1907, and we have tried to observe the special commemorative character of the Convention in the planning of the program for the four days. However, in noting the industry's achievement and growth, this Golden Anniversary Convention also has as its theme: 'Look to the Future.' We like to believe we are a dynamic industry—that we should not rest on our laurels. Our program, accordingly observes both the past and the future."

*Milton E. Brooding* brought in the report of the Nominating Committee naming as 1957 President A. Edward Brown, vice president of the Michigan Fruit Canners, Inc., Benton Harbor; as Vice President Edward E. Burns, president, Alton Canning Company, Inc., Alton, N. Y.; Executive Secretary-Treasurer Carlos Campbell was continued in office; and a slate of new directors (see page 50).

*Louis Ratzesberger, Jr.*, read the text and moved adoption of the Convention Resolutions (see page 52).

*J. Roger Deas*—The "secret weapon" that has helped lead to a life expectancy that now exceeds 70 years is not a miracle drug but canned food. The absence of hunger made possible by this country's processing industry is truly our mightiest weapon in war or peace against the scourge of famine. Abundance of canned food, regardless of the season, not only brings economic advantages to our agricultural and fishing industries but also is a major advantage we hold over communism. The food processing industry during World War II supplied two-thirds of the armed forces' food requirements and this assured source of supply helped to keep morale high, generally. Economic benefits to farmers throughout the nation are brought about by crop processing. Canners should take their hats off to the past and their coats to the future towards the continued preservation of the prosperity of our land so that we may one day see a world contentedly and constructively at peace.

*Howard Pyle*—Citizens should exert every effort to keep our economy sound. There should be an increase of interest and understanding of the importance of Congress as a body in our system of government. Is it possible that somewhere along the line the American public has lost its identification of Congressmen with national policy? It's alarming to note that a certain state cast nearly a million more votes for the President in 1956 than for the Congress in 1954, just two years before. This will not build a Congress, this will not encourage devotion to Congressional service at the head of our government by our best qualified citizens. President Eisenhower's attitude toward the Congress is constitutional in every respect. This should be every citizen's attitude. Here rests the legislative power and the appropriating authority of "Operation America." Under no circumstances should it be taken lightly at the polls or elsewhere.

### Research and Production Session

*Introductory Skit*—An actor portrayed the Emperor Napoleon Bonaparte, entering via the grand staircase of the lobby and appearing before those in the meeting room to tell the famous story of Appert's discovery of the canning process. Testing of Appert's experimental packs by a member of the French Directorate was portrayed in humorous cartoon animation.

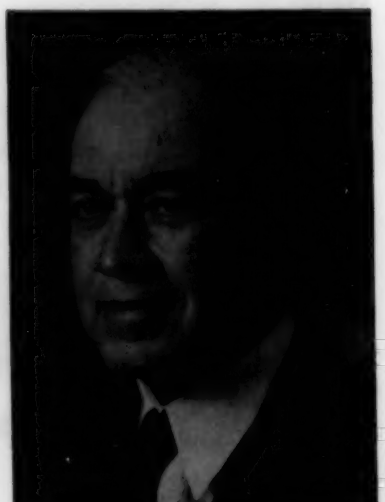
*President Hudson*—"We are on the threshold of many revolutionary changes created by the vast new basic knowledge acquired in chemistry, physics and engineering. Without it we are bonded to tin, glass, heat sterilization in retorts, and to vision and speed of human reactions. Now these bonds are largely broken and the changes that will result will be radical and relatively swift. This new knowledge has revolutionized these sciences so that many concepts that were accepted as truths a few years ago have had to be discarded and the new concepts adopted. The need for even more research and development work seems apparent if we are to be able to apply these new developments in our industry for our own advantage and in protection against the inroads of potential competition."

Mr. Hudson called on John T. Knowles, vice president of Libby, McNeill & Libby and Chairman of the N.C.A. Scientific Research Committee, to introduce the speakers at this session.

*Messrs. Berg and Cairns*—with script and visuals brought to canners a demonstration of techniques used in research methods to pinpoint problems as a preliminary to solving them, and showed how these techniques can be applied not only to technology but to all business management operations.

*Dr. W. R. G. Baker*—Automation is necessary because of the unprecedented rate of growth of our population and gross national product. Industry, in looking ahead 10 years must plan for an economy based on a population of almost 200 million people and a gross national product of $570 billion. Disposable personal income should rise to more than $400 billion. On this basis, we will need to produce about 40 percent more goods and services, but we must do it with an increase in the total work force of only about 14 percent, because the greatest population growth will be in the age groups that are too old or young to work. Mentioned several recent examples of new applications for automation drawn from the canning industry—a machine which counts cherries for canning, electronic sorting of lemons into five gradations of color from dark green to tree ripe, fruit juice equipment, an X-ray inspection machine that automatically monitors and rejects every can that is over- or underfilled. Automation's most important impact will not be on employment, but on the qualifications and functions of the employees. Incredibly large numbers of men will be required behind the scenes in new, highly skilled jobs as machine builders, installers, repair men, controllers of the machinery and of its performance and "programmers." In addition, large numbers of highly educated men will be needed in new jobs as designers, draftsmen, system engineers, mathematicians, or logicians, for new managerial jobs requiring a high ability to think, to analyze, make decisions and assume risks. This increase, both in the numbers of managers and in the demands made on

JOHN F. McGOVERN



them, may well be the largest of all the social impacts of automation.

*Dr. Newton and Mr. McConnell*—Brought civil defense matters before the canners, presenting recommendations as to precautions that should be taken to guard plants and facilities against the potential threat of sabotage, biological and chemical warfare, and radioactivity, and announced schedules of FDA civil defense training schools for industry.

### Raw Products Research

*Introductory Skit*—An audience participation show with a sleight-of-hand artist, who presented himself first as the British minister of food.

*President Hudson*—Importance of procurement of adequate supplies of high quality raw products for canning cannot be over-emphasized. Vegetable and fruit canning business is based upon continual improvement. Many revolutionary changes have occurred in the agricultural situation during the past few years which directly or indirectly have effect on procurement of raw products. Numerous proposals have been made for compulsory controls on many agricultural crops, including canning crops. The policy of the N.C.A. has been that we do not need compulsory government controls on our canning crops.

Mr. Hudson introduced P. K. Shoemaker, vice president of manufacturing, H. J. Heinz Company and Chairman of the N.C.A. Raw Products Committee, who conducted the balance of this program.

*Assistant Secretary Earl L. Butz*—Credited the canning industry for a good share of the "agricultural revolution" which today makes available modern convenience foods; Paralleled the change in agriculture over the last century to the industrial revolution, noting that to a considerable degree it provided the basis for the present high standard of living; Said that the canning industry, with its huge annual packs of convenience foods, plays an important role in our economy. Canning of food products in the United States has grown into a multi-

*(Please turn to page 110)*

## 50th Anniversary Greetings from the FDA

Following is the text of the letter received by President Hudson from John L. Harvey, Deputy Commissioner of the Food and Drug Administration, extending formal congratulations to the N.C.A. on the occasion of its 50th anniversary:

Dear Mr. Hudson:

We of the Food and Drug Administration would like to extend our heartiest congratulations and good wishes to the National Canners Association on the occasion of your 50th annual meeting.

The National Canners Association has a proud record of scientific integrity and effort in the improvement of canned foods. Many times it has demonstrated that it pays more than lip service to the principle that honesty and fair dealing in the interest of consumers is a solid foundation for good business.

The N.C.A. received 50th anniversary congratulations at the Golden Anniversary Banquet from the C.M.&S.A. and the N.F.B.A. At left, N.F.B.A. National Chairman Walter H. Burns, Sr., reads the scroll which he presented on behalf of the food brokers. At right, C.M.&S.A. President C. K. Wilson presents anniversary felicitations to N.C.A. President William U. Hudson. The presentation procedure was reversed during the C.M.&S.A. Dinner Dance when C.M.&S.A. received 50th anniversary tributes from N.C.A. and N.F.B.A.

## N.C.A., C.M.&S.A., N.F.B.A. Exchange Anniversary Scrolls

The N.C.A. received golden anniversary felicitations from both the C.M.&S.A. and the N.F.B.A. The C.M.&S.A., also observing the 50th anniversary of its founding, received formal messages of congratulation from N.C.A. and the N.F.B.A.

The congratulatory messages were presented on engraved scrolls.

The first presentation was made at the N.C.A. Golden Anniversary Banquet. President Hudson received the C.M.&S.A. scrolls from C.M.&S.A. President C. K. Wilson and the N.F.B.A. scroll from N.F.B.A. National Chairman Walter H. Burns, Sr.

The C.M.&S.A. received scrolls at its Annual Dinner Dance. President Wilson accepted the scrolls from N.C.A. President Brown and from Mr. Burns of N.F.B.A.

Following are the texts of the scrolls:

### To N.C.A. from C.M.&S.A.

To the National Canners Association on its fiftieth anniversary, 1907-1957: An expression of sincere admiration.

For half a century—by encouraging the development of new technological skills, fostering significant nutritional research, and knowingly guiding the seed-to-shelf progress of our nation's food supply—your Association has contributed outstandingly to a better way of life for all Americans.

We of the Canning Machinery and Supplies Association regard with proud esteem our close and harmonious relationship with the National Canners Association. We are profoundly grateful to you for providing the inspiration and assistance so valuable to us in our constant effort to better equip, better supply, and better serve the canning industry.

May the next fifty years bring realization of all your desires, fulfillment of all your efforts. We pledge unswerving devotion to the privilege of helping you, in every way possible, achieve your goals.

Canning Machinery and Supplies Association.

### To N.C.A. from N.F.B.A.

On this proud occasion of the 50th Anniversary of the National Canners Association — heartiest congratulations! A half century is a milestone to be proud of. The accomplishments made by the National Canners Association during the past fifty years have been many, and have served not only the canners of the nation but the entire food industry and the American people.

The fellowship with the National Canners Association from its birth in 1907 is a prologue to continued fellowship and cooperation in the years ahead. To the canners of this nation and to their national representative, the National Canners Association now entering its second half century of service, go the sincere best wishes for the future from the food brokers of America represented in the National Food Brokers Association, February, 1957.

### To C.M.&S.A. from N.C.A.

To the Canning Machinery and Supplies Association on its fiftieth anniversary, 1907-1957: An expression of gratitude for five decades of effective cooperation.

In our inter-dependent economy, no part of American industry can function alone. Instead, each is vitally dependent upon what another supplies in essential materials, machinery and technology. During its half-century of effort in the improvement of canned foods and the advancement of the art of food preservation, the National Canners Association and the canning industry owe an immeasurable debt to the members of the Canning Machinery and Supplies Association who have so splendidly developed processing machinery, improved containers and packaging, and enabled canners in every way better to achieve their purpose in the safe and serviceable packing of canned foods. Only through the cooperation of the machinery and supply industry, in the fusing of technical skills and the integration of scientific research effort, have these twin Associations been enabled each to contribute more effectively to the growth of the industry. Upon the occasion of our common fiftieth birthday, the National Canners Association is both privileged and proud to felicitate the Canning Machinery and Supplies Association in the confident conviction that together we shall continue to perform an effective public service in bringing the harvest of the fields and catch of the seas to the American consumer.

National Canners Association.

### To C.M.&S.A. from N.F.B.A.

Greetings to the Canning Machinery and Supplies Association and to its proud members on this 50th anniversary of C.M.&S.A. The Golden Age of Canning symbolized by this occasion would not have been possible without the machinery and supplies that have been designed, constructed and steadily improved through the years by the members of C.M.&S.A.

During the past 50 years there have been cordial relations between the C.M.&S.A. and N.F.B.A. The spirit of cooperation and harmony evidenced through the years has contributed to the growth and development of the food industry.

To the Canning Machinery and Supplies Association now entering its second half-century of service, and to its members, go the sincere best wishes for the future from the food brokers of America represented in the National Food Brokers Association, February, 1957.

### Other Messages

The N.C.A. also received congratulations from the Comité International Permanent de la Conserve. The message read:

The Comité International Permanent de Conserve félicite National Canners Association a l'occasion de son cinquantieme anniversarie.

From Robert C. Paulus, 1951 President of N.C.A., who was unable to attend the Convention, also came this special anniversary greeting:

Sorry unable join in ceremonies celebrating 50th anniversary of National Canners Association. The Association has not only established an unsurpassed record in behalf of one of the nation's most essential industries, it has also rendered service of incalculable value to the government and members of the industry during the various crucial periods of war. During peace, it has worked unremittingly for the improvement of canning techniques to the extent that there is no other country on earth which can match in variety, quality and price the canned foods being offered the American consumer today. As we stand on the threshold of the future, it is safe to predict that further technological information will be uncovered which will outmode anything accomplished to date and N.C.A. will be in the forefront of this progress. For the teamwork of a staff meticulously devoted to a high ideal and to the many, many members of the Association, each of whom in his time throughout the past five decades has contributed unselfishly of his time and knowledge for the common good, the industry owes a debt of gratitude. Upon this auspicious occasion I join the Association's many well wishers with congratulations upon its fine record of accomplishment and extend best wishes for a continuation of its unmatched productive service for the next 50 years to come.

## 1958 Convention

The N.C.A.'s 51st Annual Convention is scheduled for Atlantic City the third week in January, 1958.

The 1958 Convention is thus scheduled in accordance with the previously approved policy of alternating conventions betwen Chicago and Atlantic City. Suppliers and canned food brokers will be invited to participate, as usual. Personnel of committees dealing with Convention matters, to be appointed by the President, will be announced shortly.

# ANNUAL MEETING

PRESIDING: WILLIAM U. HUDSON, Gerber Products Company, Oakland, Calif.; 1956 President of N.C.A.

GREETINGS: President HUDSON

REPORT of the Committee on Nominations: MILTON E. BROODING, California Packing Corp., San Francisco; Chairman

ELECTION of Officers

REPORT of the Committee on Resolutions: LOUIS RATZESBERGER, Jr., Illinois Canning Co., Hoopeston, Ill.; Chairman

ADDRESS: "Golden Anniversary—Legacy and Challenge"—J. ROGER DEAS, American Can Company, New York City

ADDRESS: "Operation America"—The Honorable HOWARD PYLE, Deputy Assistant to the President of the United States, Washington, D. C.

## President's Report to the Membership

**By William U. Hudson,**
**1956 President,**
**National Canners Association**

The past year has been a most interesting one for me and I have enjoyed its activity.

The highlight of the year has been the opportunity to meet or know better so many fine and hospitable people. Mrs. Hudson—Ruth—was with me on practically all of my visits and we are both grateful to all of you that have given us so much pleasure.

Carlos and his staff have been most cooperative and I want to thank them on behalf of myself and the Association for their conscientious efforts during the year.

My experience has been that associations have a tendency to build bureaucracies and spawn their own inefficiencies. This has not been true in N.C.A. and while I am sure there are spots that could be improved, the over-all effort is unselfish and directed in the interest of the membership.

During this past year several programs have been initiated and we have tried to keep you informed through the INFORMATION LETTER and other memorandums.

We have had several very active and effective special committees at work.

1. The 1957 Convention Program Committee with Vice President Ed Brown as Chairman to recommend the format for this Convention. Their recommendations were approved by the Board of Directors in their May meeting and I trust you will find that this Convention will more closely meet your needs and desires.

2. The Convention Arrangements Committee with Bernal Richmond as Chairman to work on the 1958 Convention, particularly as to its relations with brokers. The problem has been knotty but specific recommendations were made to the Board at their meeting yesterday.

3. The Reappraisal Committee with Lou Ratzesberger as Chairman, whose problem was to sound out the membership across the country and see whether the functions the N.C.A. have been performing are meeting the needs and wishes of the membership both as to the work itself and the proportion of time and money spent on each particular function. This has taken considerable time of the committee members and they were able to accumulate a rather substantial amount of data. A preliminary report was made to the Budget Committee on December 5 so that that Committee could work on the 1957 budget with that knowledge. They also made another progress report to the Board yesterday and plan to submit a final report to the Board in May.

4. A little over a year ago the Scientific Research Committee discovered that they had been doing an inadequate job of keeping the Finance Committee and the Board properly informed as to the work being done in the Laboratories. They made a carefully prepared presentation to the Finance Committee in December, 1955, and since that time have been more conscious of the importance of better communications with the Finance Committee, the Board, and particularly with the membership. Laboratory findings are of no value until they are utilized by the canner members. As a result of this thinking you all received the January issue of a new monthly bulletin *Research Information*.

To assist further in this chain of communications, two non-technical members of the Finance Committee were appointed as members of the Scientific Research Committee—Herb Barnes of Utah and John Baxter of Maine.

WILLIAM U. HUDSON
1956 President

As we enter into the second half-century of our Association's existence, it seems evident that we face even greater problems, that can best be solved by a strong and aggressive association.

As for scientific research or laboratory work it seems apparent that we are on the threshold of many revolutionary changes. This threshold is created by the vast new basic knowledge acquired in chemistry, physics, and engineering during the last 15 years. Without it we were bonded to tin, glass, heat sterilization in retorts just as Appert did, and to vision and speed of human reactions.

Now these bonds are largely broken and the changes that will result will be radical and relatively swift.

The need for even more research and development work seems apparent

1956 President William U. Hudson presides at the N.C.A. Annual Meeting, first of the four General Sessions held in the Williford Room, specially decorated for the Golden Anniversary Convention. Here, left to right, are 1957 Vice President Edward E. Burns, 1957 President A. Edward Brown, J. Roger Deas of American Can Company, President Hudson, Howard Pyle of the White House staff, and Executive Secretary Carlos Campbell.

if we are to be able to apply these new developments in our industry for our own advantage and in protection against inroads of potential competition.

We have been doing business for the past several years in an era of radical change in the marketing or merchandising field and I would think that this era has not completely run its course.

This has created favorable conditions for some segments of our industry and serious problems for other segments. In many cases it has been to the advantage of competing industries.

The work of the Association in this field has been patterned to help the membership better meet these changing conditions and this stronger competition.

This effort should be continued with an alert staff and advisory committee that is always ready to realign their program and shift their emphasis as changing conditions and new threats arise.

Legislative and claims work has always been with us and always will be. Some 25 percent of our budget is devoted to these fields. This work can only be done effectively by a strong national association with the solid support of every member.

Another problem that has been given considerable thought and discussed in several state association meetings is that of grower-canner relations. This relationship involves not only the individual canner and his growers. It includes grower associations or marketing groups, individuals or small groups that may claim to represent growers whether they do or not, the state and federal departments of agriculture, and even the Congress of the United States. All of these are having more and more effect on the direct relationship a canner has with his growers.

It is planned that this study will be continued and a specific program for action recommended.

The past 50 years has seen the industry develop from one of crude black iron equipment and stove bolts with large masses of unskilled labor to one of precision machines and stainless steel and the need for highly skilled and technically trained people.

This evolution will continue at an accelerated pace and the rewards will go to those that do the best job in skillful planning and scheduling, better industrial relations and training, better organization and the full use of the results of research in both the scientific and merchandising field.

As we celebrate our Golden Anniversary there are golden opportunities ahead.

## Presentation of Gift to President Hudson

(at the Closing General Session)

**By Howard T. Cumming,**
**1948 President,**
**National Canners Association**

There come times to all of us when we would like to do our supreme best. When that time comes, we try—and partially succeed—and then try again. This for me is one of those times.

Over the years there has come to be a considerable number of those who have served the National Canners Association as its President. Within that fraternity there is a quiet but firm assurance that to have had the rare privilege of associating with you and to have shared your problems is a pleasure and satisfaction beyond measure.

Perhaps it was the California sunshine, perhaps it was the influence of a lovely wife, perhaps it was the well-grounded experience in our industry that so completely fitted Bill Hudson to serve us so well this past year. Whatever it was, he will long be recorded and remembered as one of our greatest performers as our Number One Man.

Bill, you have done an outstanding job for us. You have done it with a poise and a charm that we all admire. Individually we have tried to express that appreciation. And now, collectively and publicly, we want to thank you. Our words will soon be forgotten by you, but we can't let our feelings drift away so easily. So we have chosen this modest gift for you, which we earnestly hope will speak to you for us far into the future. It is intended to express our gratitude, our admiration, and our affection for you.

## A. Edward Brown Elected 1957 President of N.C.A.; E. E. Burns Chosen Vice President; Directors Named

A. Edward Brown, vice president of Michigan Fruit Canners, Inc., Benton Harbor, Mich., was elected 1957 President of the N.C.A.

He succeeds William U. Hudson, vice president in charge of production and research, Gerber Products Co., Oakland, Calif.

Edward E. Burns, president of Alton Canning Co., Inc., Alton, N. Y., was elected 1957 Vice President.

Carlos Campbell of Washington, D. C., was continued in office as Executive Secretary-Treasurer.

The N.C.A. membership elected 25 Directors to new terms and one to fill an unexpired term; the terms of 43 members of the Board of Directors were held over.

President Brown, Vice President Burns, and the newly-elected Directors were the unanimous choice of the Nominating Committee, of which Milton E. Brooding was Chairman.

### A. Edward Brown

A. Edward Brown has been active in the canning industry since 1936 when he became a member of the board of directors of Michigan Fruit Canners, Inc.

Born in South Haven, Mich., in 1907, he was educated in the public schools of St. Joseph, Mich., at Northwestern Military Academy, and at the University of Michigan, where he received his A.B. degree in 1929 and his LL.B. in 1931. Mr. Brown practiced law in St. Joseph from 1931 through 1946, and was president of the Berrien County Bar Association in 1946.

A. EDWARD BROWN
1957 President

His father and uncle, in 1896, had founded the South Haven Preserving Company, which some years later became a part of Michigan Fruit Canners, Inc. As a youth Mr. Brown spent every summer from 1922 to 1930 at work in the canning plant, at various jobs on the production line and about the plant.

He was elected to the board of directors of Michigan Fruit Canners, Inc., in 1936, and served on that basis continuously through 1946. On January 1, 1947, he became vice president and treasurer of the firm, and his time since then has been devoted wholly to the affairs of the company. During his canning career Mr. Brown has carried responsibility for financial and general management of the firm.

Mr. Brown has served the N.C.A. as a member of its Consumer Service Committee, Legislative Committee, Statistics Committee, and, during the Korean war, was chairman of the special War Mobilization Subcommittee concerned with price controls. He also served a term on the N.C.A. Board of Directors.

## N.C.A. Board of Directors

At the Annual Meeting the N.C.A. membership elected 25 to three-year terms on the Board of Directors and one to fill an unexpired term. Together with 43 holdover members, following is the Board as now constituted:

DIRECTORS ELECTED FOR A THREE-YEAR TERM

W. F. Allewelt, Jr., Turlock Cooperative Growers, Modesto, Calif.

Aubin R. Barthold, Alaska Packers Association, Seattle, Wash.

John L. Baxter, Jr., Snow Flake Canning Co., Brunswick, Me.

Ben F. Counter, Fort Lupton Canning Co., Fort Lupton, Colo.

W. T. Creamer, New Vienna Packing Co., Wilmington, Ohio

Leo Gleason, G & M Food Products, Des Moines, Iowa

James Glover, National Cranberry Association, Hanson, Mass.

Robert Hutchinson, Michigan Fruit Canners, Inc., Fennville, Mich.

Frank A. Jugler, South Ogden Products Co., Ogden, Utah

M. E. Knouse, Knouse Foods Cooperative, Inc., Peach Glen, Pa.

Robert S. McCracken, Treesweet Products Co., Santa Ana, Calif.

Thomas D. McGinnes, Virginia Seafoods, Inc., Irvington, Va.

W. Allen Markham, Markham Bros. & Co., Okeechobee, Fla.

Parker Mitchell, Jr., F. O. Mitchell & Bros., Perryman, Md.

Ivan Moorhouse, Olympia Canning Co., Olympia, Wash.

Arthur H. Noble, Ray Bros. & Noble Canning Co., Inc., Hobbs, Ind.

Robert L. Peterson, Big Horn Canning Co., Cowley, Wyo.

Montgomery Phister, Van Camp Sea Food Co., Inc., Terminal Island, Calif.

E. E. Richard, H. J. Heinz Company, Bowling Green, Ohio

M. F. Smith, San Juan Islands Cannery, LaConner, Wash.

G. S. Suppiger, Jr., Brooks Foods, Inc., Collinsville, Ill.

Gordon Verhulst, Calumet-Dutch Packing Co., Sheyboygan, Wis.

Norman L. Waggoner, Olney & Carpenter, Inc., Wolcott, N. Y.

Newlin B. Watson, R. S. Watson & Son, Greenwich, N. J.

E. B. Woodworth, Hawaiian Pineapple Co., Ltd., San Jose, Calif.

DIRECTOR ELECTED FOR A TWO-YEAR TERM

Robert W. Earle, S. & W. Fine Foods, Inc., San Francisco, Calif.

DIRECTORS WHOSE TERMS HELD OVER

Frederic H. Bird, Medomak Canning Co., Rockland, Me.

Roger E. Brickman, Illinois Meat Co., Chicago, Ill.

Charles E. Bridges, Libby, McNeill & Libby, Chicago, Ill.

Milton E. Brooding, California Packing Corp., San Francisco, Calif.

C. C. Cadagan, Maui Pineapple Co., Ltd., Maui, T. H.

### Edward E. Burns

Edward E. Burns entered the canning business in 1927. His father was already in the dried apple business, and together they established the Alton Canning Co., Inc., for the production and sale of canned applesauce.

EDWARD E. BURNS
1957 Vice President

The new firm expanded and added new lines and today packs a wide variety of canned fruits and vegetables.

Mr. Burns served during World War II as a member of the Canned Fruit and Vegetable Industry Advisory Committee to the OPA and during the Korean war in the same capacity with the OPS. Also, he was a member of Governor Dewey's Migrant Labor Advisory Committee for New York State.

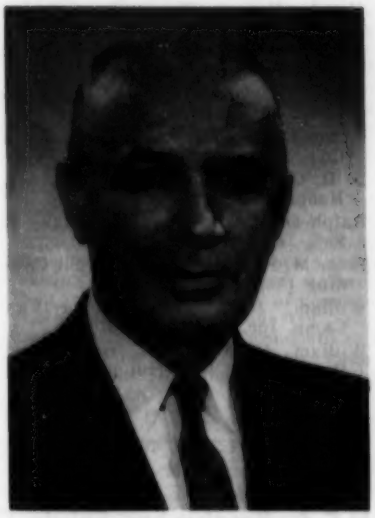
Mr. Burns also is director of the Sodus Cold Storage Corporation, a fruit and vegetable public storage warehouse, and of the Alling-Lander Co., Inc., of Sodus, machine tool manufacturers. He is treasurer of Hopkins of Sodus, Inc., a fruit freezing operation.

He also is principal stockholder of a large-scale fruit and vegetable farming operation, known as Burns Farms, Inc., in Wayne County.

Mr. Burns was born in Wayne County, N. Y., July 22, 1903. He was graduated from Dartmouth College, where he studied business administration, in 1925.

He has been active in the affairs of the N.C.A. and the New York State Canners and Freezers Association. He is a past president of the New York association and has served on a number of its committees. He has been a member of the N.C.A. Raw Products Committee, 1948-50; the Claims Committee, 1952-54; and the Statistics Committee, of which he has been Chairman since his appointment in 1954.

He is active in community affairs, as a director of the Lyons Hospital and of the Sodus Community Hospital, as chairman of the Wayne County Cancer Society Drive, and in apple and cherry festivals.



CARLOS CAMPBELL
Executive Secretary-Treasurer

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C. H. Carlson, Burnette Farms Packing Co., Hartford, Mich.

Shell R. Clevenger, Bush Bros. & Co., Dandridge, Tenn.

Carlton Clifton, Carlton Clifton & Sons, Milford, Del.

A. E. Coddington, Jr., Coddington Packing Co., Inc., Mt. Comfort, Ind.

Robert C. Cosgrove, Green Giant Company, LeSueur, Minn.

George Davidson, Foster Canning, Inc., Napoleon, Ohio

Ralph Day, Marshall Division of Consolidated Food Processors, Inc., Hampton, Iowa

Samuel E. W. Friel, S. E. W. Friel, Queenstown, Md.

Guy Graham, Libby, McNeill & Libby, Seattle, Wash.

Henry W. Hartle, Owatonna Canning Co., Owatonna, Minn.

Henry McK. Haserot, Hawaiian Canneries Co. Ltd., Kapaa, Kauai, T. H.

Richard R. Hipke, A. T. Hipke & Sons, Inc., New Holstein, Wis.

Wesley Jense, Pleasant Grove Canning Co., Pleasant Grove, Utah

William J. Kiefer, John W. Taylor Packing Co., Hallwood, Va.

Horace Larkin, Rochelle Asparagus Co., Rochelle, Ill.

Max Lehmann, Northwest Packing Co., Portland, Ore.

T. N. Lyons, Bluffton Foods, Inc., Bluffton, Ind.

Dougald MacDonald, Burnham & Morrill Co., Portland, Me.

D. E. Martinelli, Lake County Cannery, Inc., Upper Lake, Calif.

Walter W. Maule, Mushroom Cooperative Canning Co., Kennett Square, Pa.

Arthur Mendonca, F. E. Booth Co., Inc., San Francisco, Calif.

Norman W. Merrill, Blue Lake Packers, Inc., Salem, Ore.

Francis J. Miller, Curtice Brothers Co., Rochester, N. Y.

Albanus Phillips, Jr., Phillips Packing Co., Cambridge, Md.

C. M. Pike, Trident Packing Corp., Lubec, Me.

Thomas Richards, Jr., Bercut-Richards Packing Co., Inc., Sacramento, Calif.

Alfred Rieck, Tripoli Canning Co., Tripoli, Iowa

Daniel Rosenbaum, Sugar Rose Canning Co., Tampa, Fla.

C. L. Rumberger, H. J. Heinz Company, Pittsburgh, Pa.

E. W. Sterr, Loyal Canning Co., Loyal, Wis.

T. E. Stinson, Alamo Products Co., Alamo, Texas

Ryland Thomas, Griffin Manufacturing Co., Muskogee, Okla.

William Varney, Varney Canning, Inc., Roy, Utah

Harlow Waggoner, Santa Clara Packing Co., San Jose, Calif.

Alan Warehime, Hanover Canning Co., Hanover, Pa.

J. Edward White, White Packing Co., Vienna, Ga.

Elmer Williams, DeJean Packing Co., Braithwaite, La.

Walter W. Wilson, Silver Creek Preserving Corp., Silver Creek, N. Y.

## 1957 Finance Committee

The personnel of the Finance Committee was approved at the Closing General Session. As announced by President Brown, it is as follows:

William U. Hudson, Gerber Products Company, Oakland, Calif., *Chairman*

H. J. Barnes, Kaysville Canning Corp., Kaysville, Utah

John L. Baxter, Snow Flake Canning Co., Brunswick, Me.

E. B. Cosgrove, Green Giant Company, LeSueur, Minn.

Howard T. Cumming, Curtice Brothers Co., Rochester, N. Y.

S. B. Cutright, Illinois Canning Co., Hoopeston, Ill.

Ralph O. Dulany, John H. Dulany & Son, Inc., Fruitland, Md.

Peter M. Filice, Filice & Perrelli Canning Co., Richmond, Calif.

William H. Foster, Stokely-Van Camp, Inc., Oakland, Calif.

William A. Free, Sr., Hungerford Packing Co., Inc., Hungerford, Pa.

R. A. Friend, Friend Brothers, Inc., Melrose, Mass.

Walter L. Graefe, Pomona Products Company, Griffin, Ga.

G. Sherwin Haxton, Haxton Foods, Inc., Oakfield, N. Y.

Fred C. Heinz, H. J. Heinz Company, Pittsburgh, Pa.

Marc C. Hutchinson, Michigan Fruit Canners, Inc., Fennville, Mich.

Adolph C. Ketzler, Bordo Products Co., Chicago, Ill.

H. F. Krimendahl, Stokely-Van Camp, Inc., Indianapolis, Ind.

D. P. Loker, Star-Kist Foods, Inc., Terminal Island, Calif.

Roy G. Lucks, California Packing Corp., San Francisco, Calif.

John F. McGovern, Green Giant Company, Le Sueur, Minn.

Ivan Moorhouse, Olympia Canning Co., Olympia, Wash.

George B. Morrill, Jr., Burnham & Morrill Co., Portland, Me.

Fred M. Moss, Idaho Canning Co., Payette, Idaho

Maxwell N. Naas, Naas Foods, Inc., Portland, Ind.

Robert C. Paulus, Hawaiian Pineapple Co., Ltd., San Francisco, Calif.

Louis Ratzesberger, Jr., Illinois Canning Co., Hoopeston, Ill.

B. E. Richmond, Richmond-Chase Co., San Jose, Calif.

Emil Rutz, Schuckl & Co., Inc., Sunnyvale, Calif.

R. L. Smith, Kuner-Empson Co., Brighton, Colo.

Henry P. Taylor, Taylor & Caldwell, Inc., Walkerton, Va.

A. O. Verbeke, Libby, McNeill & Libby, Chicago, Ill.

H. L. Wedertz, Lakeside Packing Co., Manitowoc, Wis.

J. B. Weix, Oconomowoc Canning Co., Oconomowoc, Wis.

Oliver G. Willits, Campbell Soup Company, Camden, N. J.

E. B. Woodworth, Hawaiian Pineapple Co., Ltd., San Jose, Calif.

Ray A. Yocom, Consolidated Food Processors, Inc., River Grove, Ill.

## N.C.A. Resolutions Salute Canning Crops Producers, Reaffirm Industry Opposition to Marketing Orders

The contribution of canning crops producers to the development of canned foods was officially acknowledged by the N.C.A. membership in resolutions adopted at the Annual Meeting.

The N.C.A. also reaffirmed industry-wide opposition to federal marketing order controls.

The resolutions were presented by Louis Ratzesberger, Jr., Chairman of the Resolutions Committee, and adopted unanimously.

The Convention resolutions also took formal notice of the N.C.A.'s 50th Anniversary.

Following is the text of the Convention resolutions:

### The Growers of America

On this historic occasion of the Fiftieth Anniversary of the National Canners Association, the canning industry gratefully acknowledges the vast contribution of the growers of canning crops to the remarkable development of American canned foods. The community of interest between grower and canner has long been understood by both, and has fostered a spirit of friendship and cooperation in meeting the mutual problems of growing, harvesting, processing and marketing. Together canners and growers have surmounted the vagaries and misfortunes of nature. Together they have come to understand that restraint upon the fundamental freedoms of either would inevitably operate to the detriment of all. Together they look forward to continued mutual respect, cooperation, and prosperity in the further growth of this industry.

### Federal Marketing Orders

Compulsory marketing orders controlling production and distribution of fruits and vegetables for canning are contrary to the American tradition of free enterprise and competitive incentive. The canning industry's experience in resolving production and marketing problems, coupled with new processing techniques, has led to impressive gains which have benefitted both grower and consumer. The development of canning in many areas would have been seriously curtailed, and the continued growth of the industry thwarted, had canners been regimented by governmental restriction and limitation in the marketing and production of canning crops. Experience has repeatedly demonstrated that these complex problems can best be resolved by the free and unhampered actions of canners and growers. This Association unalterably opposes any extension to canning crops of compulsory government controls operating through involuntary marketing orders.

### William U. Hudson

California has contributed many of its civic and business leaders to effective service in national affairs. In this great tradition the National Canners Association has been privileged in its fiftieth year to have as its President a man of courage, capacity, and vision. Modest yet sure in his insight into the problems of the canning industry, forthright but eloquent in expressing his conviction of what needed doing, capable though always courteous in getting it done, William U. Hudson has infused a new insight and momentum into the activities of the Association that will long endure. In his leadership the industry has rejoiced, and for the effective discharge of his responsibilities and the gift of his warm friendship every canner will continue to be grateful.

### National Canners Association Staff

Each year since the formation of the Association 50 years ago has presented new challenges to those charged with the rendering of its many and varied services. The Association staff has met these challenges with an ever increasing diligence and excellence of performance. The members of the National Canners Association express their appreciation to Carlos Campbell and his staff for their ceaseless and devoted efforts during this past year, and record its gratitude and a special tribute to the following who have served it long and well in the past:

| | |
|---|---|
| C. C. Williams | 38 years |
| Agnes C. Ritter | 33 years |
| John Yesair | 28 years |
| Carlos A. Greenleaf | 27 years |
| Robert B. Heiney | 26 years |
| Frederick van Horsten-Krause | 23 years |
| Frank C. Lamb | 22 years |
| Kathryn Monroe | 22 years |
| Ula Vickers | 22 years |
| Forrest F. Heaton | 21 years |
| James M. Reed | 20 years |
| Evelyn van Horsten-Krause | 20 years |
| James Ross | 18 years |
| Katherine R. Smith | 18 years |
| Betty A. Dulin | 16 years |
| Reginald F. Alexander | 16 years |
| Norman A. Olsen | 15 years |
| Lois B. Scoffern | 15 years |
| C. Wallace Bohrer | 15 years |
| Nelson H. Budd | 15 years |
| Inez B. Severe | 15 years |

RETIRED

E. D. Clark
Anna F. Galliher
Esther Jenkins
Edgar C. Kellogg
Henry M. Loomis
Howard R. Smith
Helen N. Tate
Martha Thackeray
Charles G. Woodbury

### H. Thomas Austern

On this 50th Anniversary of the National Canners Association, it is instinctive to think of one who has served this industry so effectively and so loyally for a quarter of a century. H. Thomas Austern, a partner in the great law firm of Covington and Burling, became our Chief Counsel as successor to the late Judge J. Harry Covington, one of its founders. Not only has "Tommy," as he is affectionately known among canners everywhere, brought to bear on the legal problems of the industry the great talents of Covington and Burling, but through his own personal devotion to our cause he has rendered extraordinary service. For his broad knowledge of food law, for his strength as an advocate, for his wisdom as a guide and for his understanding as a friend, we salute him at this particular time.

### Canning Machinery and Supplies Association

In our inter-dependent economy, no part of American industry can function alone. Instead, each is vitally dependent upon what another supplies in essential materials, machinery, technology and service. During its half-century of effort in the improvement of canned foods and the advancement of the art of food preservation, the National Canners Association and the canning industry owe an immeasurable debt to the members of the Canning Machinery and Supplies Association who have so splendidly developed processing machinery, improved containers and packaging, and enabled canners in every way better to achieve their purpose in the packing of safe and serviceable canned foods. Only through the cooperation of the machinery and supply industry, in the fusing of technical skills, and the integration of scientific research effort, have these twin Associations been enabled each to contribute more effectively to the growth of the industry. Upon the occasion of our common fiftieth birthday, the National Canners Association is both privileged and proud to felicitate the Canning Machinery and Supplies Association in the confident conviction that together we shall continue to perform an effective service in bringing the harvest of the fields and catch of the seas to the American consumer.

### Guest Speakers, The Allied Trades, And The Press

The success of this Fiftieth Anniversary National Canners Association Convention may be attributed in large measure to the guest speakers, to the cooperation of the allied industries and the effective coverage by the daily and trade press and radio networks. In this anniversary year the Association is deeply appreciative of their contributions not only to this 1957 Convention but also to all those that have been held since the founding of the Association. The President and the Board of Directors are directed to express to each of them the Association's appreciation for all that they have done.

### Past President Edward E. Willkie

In the sudden and untimely passing of Edward E. Willkie every member of this Association has lost a spirited friend, a happy companion, and a wise counselor. Through the years his sagacity and vitality gave strength to our efforts, his penetrating humor lightened our troubles, and his genial confidence was a well of comfort to those who sought his help. The many who were privileged to know him have been enriched and inspired by a friendship that will ever and affectionately be remembered.

### In Memoriam

Each Convention brings with it the sorrowful task of recording the passing of friends with whom we have been joined in many years of common endeavor in the canning idustry. The memory of their warm friendship and the enduring worth of their many contributions to the industry will long continue.

We mourn the loss during 1956 of:

Clarence R. Barnhart
William M. Campbell
Dr. Ray W. Clough
Frank H. Van Eenwyk
Frank A. Estes
Roy Irons
F. Henry Kiser
William A. Miskimen
Happer Payne
Edward E. Willkie

## Statement on Taking Office as President

(at the Closing General Session)

**By A. Edward Brown,**
**1957 President,**
**National Canners Association**

It is indeed a great honor and privilege to serve as President of the National Canners Association. In accepting this responsibility, I am keenly aware of the confidence which you have placed in me and will do my best to merit it. We have always had a vigorous, effective and forward-looking Association, and I hope to do everything in my power to keep it so.

In looking over the roster of former Presidents of the Association, I am impressed by the high caliber of the men who have served in this office down through the years. Many of them are still active in Association work, and it has been my privilege to be associated with one of them in business. These men will serve as an inspiration to me, as I know they were, each in their turn, inspired by those who preceded them.

I am sure that I will have the cooperation of all of you who serve the Association as Directors, as Council and Committee Members, and in so many other ways. With your help and with the assistance of our very able staff at Washington, at Berkeley and in the Northwest, I am confident that we will have a productive year.

I congratulate you upon your selection of Ed Burns as Vice President. We have worked together on committees in the past, and I am looking forward to being associated with him as an officer of the Association during the coming year.

In conclusion, I would like to pay tribute to your retiring President, Bill Hudson, under whose able leadership it has been my good fortune to serve as Vice President, and to Carlos Campbell, your Executive Secretary, who has been, and I hope will long continue to be, our constant guide and faithful monitor.

# Golden Anniversary—Legacy and Challenge

**By J. Roger Deas,**
**American Can Company**

Carlos Campbell has once again revealed his passion for preciseness by nominating as the initial speaker at our Convention someone from San Francisco, for how appropriate it is to have at a Golden Anniversary, someone from the Golden State, from the City by the Golden Gate.

Fitting, too, is it that as we convene we implore the blessings of our Guardian Angel upon this meeting, that we seek the approbations of that "professor of presidents," "that wise old bird," the sage with a stogie in his mouth, the Secretary-Treasurer for three-fourths of N.C.A.'s history, the late great Frank E. Gorrell.

Were it appropriate further to designate someone as a national symbol to exemplify our dedication and accomplishments, it would obviously be Abraham Lincoln. For it was 1809, the year Lincoln was born, that Nicolas Appert revealed the secret of processing that has given us our common bond and has changed the world's dietary habits. It was on Lincoln's birthday in 1907 that N.C.A. was founded. But of far more importance than this coincidence of dates is that if there is any group of men entitled to share with him the sobriquet "Great Emancipator" it is you. For you have freed the farmer and fisherman from dependence on the tenuous fresh food market, you have freed transporter and merchandiser from the hazards of spoilage and waste, you have freed purchasers from concern as to quality and vitamin content, you have given our armed forces freedom from foraging and most recently tests have given our civil defense officials freedom from worry that our food stocks be contaminated by radiation, but, of greatest significance, you have made mothers, housewives and career girls citizens first class, emancipating them from their perennial enslavement in the kitchen.

Were we to complete the retinue of exemplary exponents of this memorable occasion and select some one from the Biblical Host as a Patron Saint, I believe it would be that great conservationist Joseph, Joseph of the Book of Genesis, Joseph of the coat of many colors, Joseph the interpreter of the Pharaoh's dream. You'll recall seven times the Pharaoh dreamed of seven fat kine being swallowed by seven lean kine, of seven full head of corn consumed by seven sparse head. It was Joseph who furnished not only an interpretation of the dream but recommended a course of wise action. He prophesied the dream meant there would be seven abundant years within the land, then seven years of famine and advised that warehouses be constructed so a portion of the abundance of the fat years could be stored against the seven lean years.

The years transpired as he prophesied. But likewise his suggestion was followed—and under his direction warehouses were built and a portion of the abundance stored—and the tragedy of starvation was averted.

He can well be N.C.A.'s Patron Saint for we are the fashioners and fillers of perfect and mobile warehouses storing God's blessings at the peak of their perfection, preserving them against the vagaries of time and distance and season, dispensing their largess at the moment of requirement.

Interestingly enough the parallel goes further, for even the cycle of seven years continues to be the cycle not only of the processor and preserver, but of the world as well and today, at N.C.A.'s Golden Anniversary, we celebrate the passing of seven times seven such cycles—each different—plus the one year which is heralding another entirely new cycle.

## U. S. A. and Seven Times Seven

1. The world during the seven years that followed N.C.A.'s establishment saw the end of a governmental era and the advent of a new concept of democracy. From 1907 to 1914 the U. S. was asserting itself by a philosophy of "Walk softly but carry a big stick." Our Great White Fleet impressed the maritime powers abroad and the centralization of the government of the people impressed even the people of whom it was. Aristocracy was having its final fling, a world dominated through colonization and by an extra territorial rights by the Saxe-Coburgs, the Habsburgs, Hohenzollerns, Romanovs, was being marshalled into suicidal combat. Then, events were precipitated; and a wise man observed "the lights are going out all over Europe, will they ever again go on?"

2. During the next septennial from 1914-21, the world proved it had the capacity to wage a global war but could not comprehend a global peace. The United States found it was transformed from a debtor nation to the position of creditor to the world. Then, rather than accept our role as active advocate for the retention of a world safe for democracy, we returned to a splendid isolationism labeled normalcy."

3. In 1921 the United States shrugged off a brisk depression of abundance and went on to the greatest speculative prosperity in history. It was a time of high moral legislation and low moral practice. Our proficiency in material progress was dissipated by our national emotional instability. Exuberantly, our people were counting hatchings while even the eggs were but paper. Then in 1928 while the world was caught in an economic hurricane, over our island 'twas said, "There wasn't even a cloud the size of a hand in the sky."

4. But the tornado hit us and from the serene peak of 1928 we were swept with the rest of the world into the depths and debts of 1935. In that bewilderment of fright and hunger, anarchy in Europe gave birth to tyrants, and even in the United States our priceless heritages of independence and self-esteem were being bartered to provide the expedient panacea from panic. Then, despite our years of prosperity and years of unprecedented governmental expenditures, we found in 1935 we were still a nation in which one-third of our people were ill-housed, ill-clothed, ill-fed.

5. From 1935 to 1952, aided and abetted by the aggression of our enemies and the plight of our friends, we climbed upward as the arsenal of democracy, paying the price for every profit in further regimentation and control. Suddenly we found isolation impossible, the world had become a very tight little neighborhood, as treachery exacted its toll from complacency on a day that shall live in infamy.

6. Then came the new age! From 1942 to 1949 it was easy to define the enemy, to accept all others as our friends; it was awesome to learn of science's new holocaust; yet encouraging to realize there are definable common goals, common objectives, common concerns which could unite all people. Our sons gave their future, fighting for shores of which they and we had never heard; our future lay in mathematical formulae and international concepts of law every bit as foreign and remote.

7. From 1949 to 1956 we found that all the testing and proving were purposeful, for now, in the short cycle of seven times seven, the world became precisely divided into two spheres. One is led by those committed to global control through the dull drab gray of collective mediocrity and despair. The other is led by those who, ascending with the impelling force of the freedom of imagination to unprecedented heights of material success, now recognize a profound sense of universal responsibility in a world that has all the components for peace and all the potential for destruction.

What a transition has taken place to the United States of America during the life of the N.C.A. We were a third rate debtor nation uniting itself; we became a world figure militarily and economically but we proved reticent to assert our leadership; we reveled in the splendor of isolated prosperity, we dropped to the appalling depths of depression, we struggled upward to become the arse-

nal of democracy, we were shocked out of complacency into the atomic age; we rose steadily to point the way to prosperity and a potential permanent peace. (But with pernicious communism patiently waiting, should the curve of progress ever falter?)

N.C.A. AND SEVEN TIMES SEVEN

What an extraordinary part N.C.A. has played in this cavalcade, what a tremendous contribution to our nation's progress you as processors have made, what a challenge for the future does our heritage offer!

You have not only given our people the opportunity to more fully, more consistently enjoy God's blessings but you have also proved the soundness of our great American philosophy of "people's capitalism."

1. N.C.A.'s birth and its infancy, those eventful years from 1907-14 under the godfatherhood of Presidents George G. Bailey, Charles S. Crary, Lon A. Sears, William D. Roach, Samuel F. Haserot and Senator Bert M. Fernald, represented an unusual conception and growth of an associational philosophy.

While many industries of that day were organized to thwart and resist Federal legislation, the founding fathers of N.C.A., being of an industry in which purity is the fundamental criterion, and convinced the Pure Food and Drug Act of 1906 was substantially sound and Dr. Wiley was an able and honest administrator, determined it was in the public's interest as well as their own to implement and enforce the Act rather than to deny and defy it.

To fulfill this belief three steps were necessary:

Unanimity of action by all processors was required, and by 1913 N.C.A. had become the single national voice of the industry.

Research must be undertaken to achieve—and raise—the high standards of the Act. N.C.A. first working through committees with government, universities and industrial laboratories, then, in 1913 with its own laboratory, in Washington, D. C. (and I am proud that the American Can Company was the donor), undertook a research program which even today remains the heart of its endeavor and success.

The public needed to be constantly and correctly informed of the purity, the quality and the convenience of canned products. The Publicity Committee was formed and began the endless chore of correcting error and spreading the gospel.

The three elements were established —national unity, programmed internal research, continuous public education.

2. It was in the second cycle from 1914-21 under N.C.A. Presidents William C. Leitsch, George N. Numsen, Richard Dickinson, Henry Burden, Frank Gerber, and Walter J. Sears that substance was given to the two axioms—that an army moves on its stomach and that it is wise in time of war to prepare for peace.

With NCA heading a new Canned Food Division for the United States Food Administration under Herbert Hoover, the familiar "set aside" provisions were established, and the years then proved our products, in addition to keeping our nation healthy, were the most practicable means of supplying the armed forces and sustaining our allies and the tragic refugees of war as well.

J. ROGER DEAS

The greater requirements called for more efficient and more effective operation. The thermocouple was introduced and instructions on its use made available to the industry. A second research laboratory, with particular emphasis on marine products, was opened in Seattle. Research programs were widely extended to cover everything from raw products to consumer education.

The industry met the challenge of the war and was well prepared for peace.

3. Next came the third, the halcyon cycle of the "roaring twenties" with Presidents Harry P. Strasbaugh, James Moore, James A. Anderson, Royal F. Clark, Edward F. Trego, Elmer G. Chase and Harry L. Cannon at the helm. 1921-28 gave the lessons that in times of prosperity improve your standards of performance and place your house in sound economic order.

Research was again emphasized with the opening of a new laboratory in San Francisco. (Only modesty prevents me from naming the donor.) Corn black was licked by C Enamel, studies were made leading to equitable cannery inspection laws, to the establishment of uniform specifications and the determination of pack quality. A Home Economics Bureau was created to enlist the housewife to give food the same gentle care as did the processor.

The Information Division was established and the first INFORMATION LETTER released. (The most recent LETTER you've received is No. 1621.)

Meanwhile a careful eye, particularly that of the watchdog of the treasury, Ed Trego, was given to the nation's economic ferriswheel. Exacting cost accounting methods were advocated, current compilations of pack and stock statistics prepared and published, the Claims Division was established to combat unfounded and fraudulent claims; attention was given to protective tariffs and duties, uses for cannery wastes were explored.

Had it not been for this awareness of the stewardship responsibilities of the food industry, far greater would have been the tragedy of the economic storm to come.

4. 1928-35—What a time to come of age! While the world was yielding itself to dictatorship and the United States was resigning itself to paternalism, the NCA under Presidents Bennett C. Nott, Edward B. Cosgrove, C. Edwin Hume, Francis A. Harding, Marc C. Hutchinson and Edwin S. Thorne asserted that we had nothing to fear but governmental intervention itself.

The academicians of the NRA and AAA were demanding absurd marketing agreements and canners' codes. The industry, armed with facts and authority, resisted. The NRA was declared unconstitutional but the industry countered with a workable code and the suggestion that if government needed a project they give their attention to rising freight rates and unrestricted foreign competition.

The depression proved canned foods the most economic provisions and the studies of Kohman and Eddy made the nation vitamin-conscious. The industry accepted the challenge to meet both the needs and requirements. N.C.A. laboratories were motorized, mechanical devices like the tenderometer to safeguard maximum vitamin content were introduced. New studies were made on how to achieve greater wholesomeness and nutritional value. Published was famed Bulletin 26-L, the New Testament of processing, now in its eighth edition.

The outdoor man says there is no such thing as bad weather, there's just proper clothing and in the de-

pression the industry proved you can meet the exigencies of the times, resist interference and still grow in service if you are conscientious, farseeing and courageous.

5. 1935-42—The fifth cycle offered new circumstances here and abroad to be met by the N.C.A. under Presidents Howard A. Orr, Ralph O. Dulany, Karl Kuner Mayer, Walter L. Graefe, Herbert F. Krimendahl and Robert C. Paulus.

At home the industry was confronted with much new so-called "soccial legislation"—including the Robinson-Patman and Social Security Acts—but when it came to a new Food and Drug Act, it was to N.C.A. that the government turned for the revisions pertaining to canning.

Overseas, as the aggressors' tenacious fingers stretched toward Malaya, tin conservation studies were undertaken and the industry submitted its plans of preparedness to the Council for National Defense.

Progress and public health were still the cardinal interests. The heat-cool-fill process, the hydrogen evolution test, the Pilcher vitamin-stability studies improved production. Studies on labeling, marketing, financing and customer requirements improved operations; the industry continued to maintain its sense of balance.

6. In the sixth cycle, 1942-49, the confusion of war and of post-war problems fell to the lot of Presidents Carroll E. Lindsey, G. Sherwin Haxton, Fred A. Stare, Emil Rutz and Howard T. Cumming.

We too, were Pearl-Harbored—priorities, price controls, rationing, container elimination, shortages of material, machinery and labor—but the industry and suppliers showed their imagination and resilience. Can makers reverted to domestic synthetics, glass manufacturers set production records, the productivity of the industry sustained the energies of the workers at home while still supplying two-thirds of the foods required by our armed forces.

The experience of N.C.A. proved invaluable in crop production, in farm and industry recruitment programs, in striving for equitable governmental regulations, in the extension of its home economics services and the broad publication of nutrition conservation information.

Then, with the advent of peace, it turned its attention to the prospect of a better world as plans were made for a building of proportions to fully meet its extended responsibilities.

7. The seven cycles end with one that showed what progress had been made, for in that brief span was synthesized virtually all the incidents of the past and all were as squarely met. Under Presidents John F. McGovern, Henry P. Taylor, Herbert J. Barnes, Frederick C. Heinz, Louis Ratzesberger, Jr., Edward E. Willkie and George B. Morrill, Jr., there were the problems of war, recession, recovery and prosperity.

Plans for maximum production and distribution of food under war conditions were submitted to the National Resources Planning Board well before the Korean police action, army procurement needs were speedily met, official declaration of the essentiality of canned foods was sought, backed by successful industry cooperative programs and confirmed by nuclear tests.

The new Washington headquarters and the Berkeley Laboratory were dedicated "to the advancement of technological research" and as "a service to national welfare."

Membership was extended to encompass the continent, and internal and public relations were accelerated through new publications, new programs, new manuals, new movies.

N.C.A. was called on to assist in writing national farm legislation, to lend its laboratories in refuting unreliable research, to support the FDA factory inspection bill, and likewise to oppose successfully new marketing orders and controls on diverted acreage, and to throw its weight toward ending the steel strike.

Quite a record of accomplishment to indicate what a potent force had become this band of rugged individualists who had grown confident through competition and strong through cooperative activity!

### The Invisible Industry

Can we not then stand before the world and say "Behold us, we epitomize success?" We can, save for one thing; we must remember our Patron Saint is Joseph. You will recall that in the Book of Genesis, it required only one chapter of 31 verses for God to whip up all heaven and earth. But to adequately tell the story of that first conservationist, Joseph, it required 13 chapters, 419 verses, and we find he and Genesis end together, the last verse stating, "Joseph died being 110 years of age and he was embalmed and buried in Egypt." Then we go into the next book, the Book of Exodus. Seven fleeting verses and we come to the eighth which states, "There came on the throne of Egypt a new Pharaoh and he knew not Joseph." Seven verses and the deeds of our Patron Saint are already forgotten.

Certainly his experience does not apply to us—or does it?

Let us take the "1957 World Almanac and Book of Facts" and turn to "History's Memorable Dates" and see how well we appear in history's passing parade.

In the year of 1809 it indicates that Napoleon took Madrid, Rome, annexed the Papal States, defeated the Austrians at Wagram. However, no mention is made of his greatest success of that year, the presentation to Nicolas Appert of 12,000 francs as a prize for achieving the first sound method to "preserve animal and vegetable substance."

The year 1810 states that Napoleon married the Arch Duchess Marie Louisa but no mention is made of the fact that Peter Durand discovered the method in which, by wedding tin to steel, you can fashion a tinned cannister, that admirable device for implementing Appert's process.

The year of 1825 revealed that we were a world on the go. The Erie Canal was opened. The "Locomotion," the first steam train, made its successful run on the Stockton and Darlington Railroad in England and in York, Pennsylvania was constructed the steamboat "Cordodus," the first iron vessel built in America. But no mention is made of the fact that the U. S. Patent Office saw fit to extend to Thomas Kensett that which gave our industry its impetus, a patent for "an improvement in the art of preserving—in vessels of tin."

The year of 1874 showed that Boss Tweed was imprisoned and the kidnapping of a Germantown, Pa., boy was national front page, but no mention was made of the fact that in Baltimore, A. K. Shriver conceived the sealed retort, thereby imprisoning heat under pressure and, in minutes, kidnapping all of nature's delectable flavors.

The year 1901 reports that Marconi signaled the letter "S" by radio across the Atlantic, that Scott and Shackelton on the "Discovery" found King Edward's Island in the Antarctic, and that the Pan American Exposition was held in Buffalo. But there is no mention that just a few snowdrifts east of Buffalo in Rochester at the Canners' Exposition, the ABC team—Ams, Bogle and Cobb—introduced the revolutionary sanitary can.

1907 details a financial crisis in the United States, that the Jamestown Exposition was held, that the Cubs under Chance beat the Tigers under Jennings in the World Series, four games to none, Australia won the Davis Cup, Alex Ross, the National Open, Pink Star, carrying 117 pounds, won the Kentucky Derby, and that the World Champion Tommy Burns beat Jack O'Brien, Billy Squires and Gunner Moir. But the only mention of the founding of the National Canners Association in that year is on page 550, in parentheses, and lost among 1020 other organizations beginning with the American League for the Abolishment of Capital Punishment and ending with the Zoologists Society.

But, let's skip the transient and look at the lasting, at "Great Inven-

tions and Scientific Discoveries." On pages 582, 583 and 584, under "CA" we find "Carcoupler," "carburetor," "card time machines," "carding machines," "cash registers"—but no mention of "canning," "cannisters," or "cans." Under "PR" we find "printing by color," "printing press," "propellers" but no mention of "preserving" or "processing." Under "TI" we find "time systems" and "tires" but no mention of "tin cans" or "tin plating."

But even if our material accomplishments are not detailed, certainly those distinguished people who have done so much for the world's health and welfare will be recognized. There are 22 pages of "noted personalities" including 174 French, 318 English and 3118 prominent persons of the United States but nowhere is there mention of Appert, Durand, Kensett, Shriver, Prescott, Underwood Bigelow, Bitting, Fitzgerald, Meyer, Esty, Cameron, nor Baker, not to mention the legion of inventive geniuses who pioneered in automatic machinery for canning. And, needless to say, though there are 13 pages of "awards, medals and prizes" extending from the Nobel Prizes to the Mrs. America Contest, our distinguished greats remain unhonored and unsung.

History and the Hall of Fame find no niche for our progress but surely our success, our greatest year 1956 is newsworthy. Let's look under current statistics. Under "Agriculture," we find 10 pages with 29 graphs and charts but there is not even noted the familiar tonnage, acreage and dollar value of products for processing. Under "Manufacturing" we find 13 pages and 46 charts but not even one line devoted to "Canned Food Pack Statistics" which we so proudly take 59 pages to summarize in our own report.

They have often called our containers invisible but it appears that we are actually members of an invisible industry.

### Let's Look at the Record — Between the Lines!

Where, then, is the measure of our success? It's there! In the news stories, just as evident, and inconspicuous, as are our products on America's family shelf.

In this great book of facts, *The World Almanac*, on page 186, for example, we find exposed the weakness of communism. It was expressed by the people of Poland and Hungary. The cry of revolution in Poznam was "Food and Freedom." Interviewed at Camp Kilmer, a homesick refugee from Budapest, when asked how he could tear himself from his native land and beautiful mansion, said, "I could not face another year hungry physically and spiritually." Here, today, in our processing industry is revealed America's secret weapon—the absence of hunger, we have made ours the one nation, the one people to be free of hunger's scourge.

On page 321 we find our contribution to the fulfillment of prophecy —1956 was the year. The Psalmist prophesied (Psalms 90:10) that one day man would live "three score and ten" and the Bureau of Census reveals that children born in the United States in 1956 had a life expectancy that exceeds 70 years. The American Medical Association and the life insurance actuaries say that it is not the miracle drugs nor the vitamin pills that have brought this about but rather a sustained diet from the moment of birth that places the roses in the cheeks of infants, that makes strong the bodies and bones of youngsters, that adds years to the life and life to the years of adults and stays the hand of death from the sweet little old ladies and the kindly old gentlemen.

Holding America's secret weapon and the secret of longevity of life is commendable, but what does our industry mean to our economic stature.

Consider the statement of the Governor of California who suggests that perhaps its nickname should be changed to the Green Gold State. Agricultural income in 1956—40 percent which was the result of processing—topped $2½ billion, whereas the cash value of all the gold produced from the State since its discovery by John Marshall in 1848 totalled only $2½ billion. Two and one-half billion dollars in one year contrasted to but $2½ billion in more than a century.

The secret weapon, elixir of life, economic success but if you believe what you read in the newspapers there's reported the irrefutable, comparative measure of our success. For the entire month of February, 1907, the month of N.C.A.'s establishment, the largest New York newspaper contains not one advertisement of a processed product, and yet this Thursday's Chicago paper reveals 112 different canned and processed foods.

So between the lines we find the importance of processing marked in convenience for the householder, economic security for our farmers and fishermen, added years to the lives of our people and as the primary advantage we hold over communism.

### Our Heritage

What then can we say we have learned from the past. First, that N.C.A. was founded and has been led by rugged individualists who epitomized our republic's form of government, men who have accepted individual responsibility and have recognized that cooperative integrity is required to make God's blessings available to all, men who ask N.C.A.'s three primary questions as criterions for action: "Does it increase the consumption of canned foods? Does it have the unanimity of the interest of the membership? Is it directly or indirectly in the public interest?"

Secondly, we have found that no matter what the whims of circumstances, the men who compose N.C.A. have been able to meet every exigency.

Third, that we need not lament the lack of recognition of our industry, for that very anonymity makes our activities those of purest service. Of such service the Lord says in Matthew 6:2-3 (which C. Lloyd Douglas calls "The Magnificent Obsession") "When thou doest service, let not thy left hand know what thy right hand doest, that thine service might be in secret. Thy Father which seeeth in secret Himself shall reward you openly."

### The Advent of a New Cycle

With this experience of the past, what key is given to us for the future?

The year 1956-57 perfectly gives us the cue. We find that today the United Nations is as strong as the energy and leadership of the United States provides. We have found that in communism there is a specific inherent weakness. We realize that even our friends can be guilty of mistakes and whatever may be the changing complexion of world affairs, the responsibilities and problems of the United States increase. We have found that within our nation, some are enjoying general prosperity while others are in dire straits. We find that the fertility of man still outdistances the fertility of the land.

During this year of entree into another cycle of seven, what has N.C.A. done under President William U. Hudson? First, we as an industry hit our all-time peak of productivity. Preliminary figures for the production of canned foods for 1956 show a record-breaking 681 million cases. This in contrast to the previous high in 1951, which totaled 639 million cases and the Lilliputian figure of only 40 million cases in 1907, the year N.C.A. was founded. The Association, now well equipped with an outstanding staff and the best of facilities, has utilized the year principally to broaden communications. The documents on the improvement of management-employee relations and canner-grower relations have strengthened the trade. The exchange of scientific research has challenged the imagination of those who would improve our processing and operation. The layman has been reached through every medium—radio, television, through motion pictures such as "The Three Squares," through such documents as *The Canning Industry*, *"Interesting Facts About Canned Foods, The Significance of the Food and Drug Act"* and the comprehensive AEC Report indicates that

canned foods are a safe and protective form of food for the use of our armed forces and civilian population under the new types of warfare of the atomic age.

To the continuous experience of success in seven cycles, we find that the welcome mat to a yet greater future has been placed before the portal to the eighth.

### What of That Future

But who can predict what the future holds?

What man reading the newspapers that announced the formation of N.C.A. on February 12, 1907, could have projected the significance of the front page headlines of that day?

They were these:

"Honduras and Nicaragua poised for war. Venezuela in revolt."

"Shah of Persia gives way to constitutional government."

"Japanese exclusion act on President's desk.

"Congress, upon recommendation of Secretary of War Taft, approves final contract for construction of Panama Canal."

"House of Commons stormed by 1,000 suffragettes."

"President observes trade and labor conditions favorable but recommends legislation to curb credit."

"Call money 6 percent."

"Bank of England declares it will not permit money to become cheap while American peril lasts."

"Vice President appears cinch to succeed 'soldier-statesman' president." (The Vice President's name, in case you've forgotten, was Charles W. Fairbanks.)

"Censorship recommended on sensational Thaw trial."

"Hague Conference on Arms Limitations set for June 15."

"Government asked to aid railroads."

Two of these headlines led America into armed conflict, several seem surprisingly current.

Who, then, can evaluate the import of the news stories accompanying the announcements of this 50th Anniversary, the headlines of this week.

Here are some:

"U. S. Census Bureau announces population hits 170,000,000, will be 183,000,000 by 1963."

"Tillable farmland in the United States now below 310,000,000 acres under cultivation in 1930."

"David McDonald, reelected president of USW-CIO, forsees continued labor-management peace in steel and allied industries."

"Congress recommends credit curbs."

"Suez Canal reopens to traffic."

"Israel subject to sanctions as Ike's Mideast plan is revised by Congressional committee."

"Banks concerned on British fiscal policy."

"UN committee to meet on A-bomb control."

Which of these headlines is meaningful, in which lurk disaster, which hold promise of a better world, which will be superseded by those yet more startling, more significant?

Who can tell? Not I. But this I do know! We who are present here today, the processors and their suppliers of America's—and the world's—most vital industry hold the key to the future. For the need of food is mankind's constant, impelling force, the lack of food reduces man to subservience or to irrational acts, difficulty in obtaining food becomes a wasteful preoccupation, a deterrent to progress.

This, too, I know. History has proved we, as an industry, need not be intimidated by headlines. We have the resilience, the courage, and the imagination to meet their most awesome challenge. Likewise, it is only to ourselves we wish to look for leadership and strength.

Fortunate, then, is it we are so well prepared for the future. We are blessed with a staff of 103 able and dedicated men and women who have N.C.A.'s 50 years of experience to guide them, their own abilities to perform any service required, and N.C.A.'s prestige to open for them any door. N.C.A. boasts the finest and most functional food processing laboratories in the world, including, newly housed this spring, one for marine products. N.C.A.'s membership encompasses 80 percent of the trade of North America and the industry suppliers have demonstrated their desire and ability to meet the requirements of each new advance.

With success so well defined, with abilities so well established, it behooves us—suppliers and processors alike—to dedicate this 50th Anniversary to the broadening of our horizons with the same daring and resourcefulness as was shown by N.C.A.'s founding fathers. That your suppliers are ready for new ventures was well expressed by our company's President William C. Stolk—and I believe he reflects the opinion of his contemporaries and competitors as well. He said, "The vital role packages play in your business today has come about through the protection of quality and the convenience they offer to the consumer. The packages of the future will be those which perform these services to an ever greater degree and for an ever widening number of products. In short, they will be the packages that do the best job of contributing to the well-being and comfort of families everywhere."

Personally, after five years of speaking to and meeting with your customers, the great American public, after viewing canneries and processing plants in 43 states, after a month's immersion in N.C.A. history and continuous association with your executives, scientists and leaders, I am convinced that because of the high regard in which the public holds you and your demonstrated abilities, that every segment of our food industry should be seeking identification with N.C.A. until one day this organization shall become the one voice of all who are committee to the preservation of food.

Therefore, gentlemen, I believe we are having our celebration at a time of opportunity and challenge commensurate with the solemnity of the occasion. We have proved ourselves good stewards to the commission of our Patron Saint—Joseph, that our demonstration of the success of free men would receive the full approval of our national symbol, Abraham Lincoln, and that we are continuing to keep faith with the high hopes and deathless dedication of our guardian angel, Frank E. Gorrell.

Let us then take our hats off to the past and take our coats off to the future, as we enter the Golden Age of processing, toward the continued preservation of the prosperity of our land and that through our example of the Golden Rule of sharing God's blessings with one another, we may one day see a world contentedly and constructively at peace.

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## Operation America

**By the Honorable Howard Pyle, Deputy Assistant to the President of the United States**

It is always a privilege for those of us in government to receive such invitations as you have extended me to address this great conference of the leadership of the canning industry. Quite often the impression prevails that we do you a favor when we travel from Washington to wherever you are to bring you greetings from such distinguished addresses as The White House. Actually, the opposite is true. We welcome opportunities like this and I thank you for the honor that is mine in being asked to join you for these few minutes.

When I was requested to file a subject with your program committee, I had the impulse to name an approach that would be somewhat on the inspirational side in keeping with February's emphasis on the birthdays

of George Washington and Abraham Lincoln. The memories of such heroes of our past and their accomplishments are among our very finest traditions. To have it otherwise would be ingratitude of the most unforgivable kind. Still as these memorable lines from somewhere continue to remind us, it is not and has not always been thus.

"So Columbus said, somebody show me the sunset and somebody did and he set sail for it, and he discovered America and they put him in jail for it, and the fetters gave him welts, and they named America after somebody else."

In the midst of the hubbub of these days, both at home and abroad, this seems an appropriate time to talk about Operation America and what has happened to it since 1492 when Columbus sailed the ocean blue to find what we have since inherited and now hold as the hope of the free world. Let's set aside the thought of budgets, the middle East, Russia and such, for just long enough to put things in perspective again. We'll come back to these vital subjects before we close, but first a look behind the scenes.

Human beings have been around for a long time; in fact, ever since God, through Adam, decreed that he should have dominion over all the earth, and over every creeping thing that creepeth upon the earth, including himself. It was a tough assignment right from the start, as Adam soon found out. Thousands of years of history have been written about it, civilizations have come and gone, empires have dominated the world scene for a time and then crumbled away, tyranny, conquest, militarism, lawlessness, mobmindedness, riot, persecution, oppression and rebellion characterized the rise and fall of people after people until Operation America began to be. Here was to be established for the first time anywhere on earth a government that was to give its people religious freedom, civil liberty, freedom of speech, freedom of press, security of individual rights, popular education and universal franchise.

It was in 1787 that a group of *real statesmen* of great physical vigor, mental acumen, thorough knowledge, practical wisdom, far-sighted vision and enormous moral courage assembled in Philadelphia for months of discussion and deliberation that at last produced the Constitution of the Republic of the United States. It was the beginning of the first great era of progress governmentally that the world had ever known—Operation America—a beachhead for freedom.

From then until now it must be admitted that our system of government has been complicated administratively almost beyond describing, in many respects almost hopelessly. No matter, in the hands of our ablest and most dedicated leadership and with the support of the most enlightened people on earth, Operation America can and must continue to be *the* beachhead for the advancement of freedom among men. This cannot be taken for granted, however, any more than peace can be taken for granted. Certainly the experiences of the last half-century, and even more particularly the last few years, prove beyond a shadow of a doubt the wisdom of Secretary of State John Foster Dulles' reminder that "war is not prevented merely by hating war and loving peace. Since the beginning, the peoples of the world have hated war and longed for peace, but it has not gained them peace."

Neither will merely wanting our domestic economy to remain sound

HOWARD PYLE

make it so. It must be backed up with a will to make it so, an active will energized by the most sensible realism of simple economics that we can put to work. Secretary of the Treasury George Humphrey's forthright statement that "We're spending too much money" illustrates the point exactly.

If you haven't read the Secretary's unvarnished answers to questions on this critical subject as they appear in the February 8 issue of *United States News and World Report*, please do so at your earliest opportunity. His candor is refreshing. The suggestion that the Congress assume its full Constitutional responsibility in relation to the budget is as it should be.

Now this does not mean that the Executive Department has no responsibility for such an urgently important item of business as the federal budget. As a matter of fact, the President and his staff have spent months of the hardest kind of work evaluating the merits of every single item that has gone into it. In the course of these months up to 13 billions of dollars have been cut from the sum total of all the requests that might otherwise have been included.

Comes now the necessity for your personal representatives in the Congress to weigh all that is involved. It's a responsible task! It must be done department by department, item by item, lest an irresponsible, across-the-board slash so cripple strategic services as to err on the side of seriously hurtful omissions.

Right here a word needs to be said about our attitude toward the Congress of the United States. The feeling grows in informed circles that there is a lack of interest and understanding on the part of millions of our citizens of the importance of the Congress as a body in our system of government. Is it possible that somewhere along the line the American public has lost the identification of our Congressmen with national policy? If so there is a job to be done among us—a vital job if Operation America is to proceed as planned.

A quick look at the text of the Constitution of the United States reveals that the Congress is given more detailed emphasis than any other branch of the national government. In addition to being Article I of the seven basic articles, its total text in words is at least half of the total text of the entire document. The authors of the Constitution put the Congress of the United States in a paramount position and rightly so, because this is the people's body. In a republic it is indispensable if the local will of the people is to be adequately represented in the national government.

It's alarming to note that a certain state, one of those that should have been the last to fail the intent of the Constitution, cast nearly a million more votes for the President in 1956 than for the Congress in 1954, just two years before. This will not build a Congress, this will not encourage devotion to Congressional service at the head of our government by our best qualified citizens.

President Eisenhower's attitude toward the Congress is constitutional in every respect. This should be every citizen's attitude. Here rests the legislative power and the appropriating authority of Operation America. Under no circumstances should it be taken lightly either at the polls or elsewhere.

What then is the position of the President? The Constitution says, "He shall from time to time give the Congress information of the State of the Union, and recommend to their consideration such measures as he shall judge necessary and expedient." In complying with this obligation for the next fiscal year, the President prefaced his budget message with the statement, "I have been guided by the following national objectives:

"Peace, justice, and freedom for our own and other peoples;

"Powerful armed forces to deter and, if need be, to defeat aggression;

"A healthy and growing economy with prosperity widely shared;

"Enhancement of individual opportunity and the well being of all our people;

"Wise conservation, development, and use of our great natural resources;

"Fiscal integrity;

"A well-balanced choice of programs at home and abroad; and

"Increasing international trade and investment essential to the growth of the economies of the United States and the rest of the Free World."

In recommending the measures he judges necessary and expedient, the President reminds us that the government will be serving 172 million persons by next year.

In surveying the international situation it is his judgment that 45 billions of dollars or 63 percent of our 1958 assignment of funds should go for protection, including collective security.

What do we mean by collective security?

Today it is estimated that the United States is maintaining some 19 combat-ready divisions. By way of collective security, the funds assigned to this role for the current year of 1957 are maintaining some 180 free world divisions.

In the words of our soldier-President, "No single country, even one so powerful as ours, can alone defend the liberty of all nations threatened by communist agression from without or subversion from within."

Here my personal memory goes back to the closing days of the war in the Pacific. Then, the altogether understandable desire of our people was to bring our citizen soldiers home as quickly as transportation could be provided. In no time at all our peripheral strength in the Far East was but a token force. We were not ready for Korea and it struck us with devastating losses. It might never have happened at all if our forces out there had been strong enough to be a real threat to an enemy.

Today, the theme of our murmuring has a familiar ring. This time, it's bring our money home. I, for one, would rather see our money abroad, waging the peace of these times, than to bring it home prematurely and increase the hazard of having to return the flower of our manhood to the battlefields of the world.

To be sure, we work and pray night and day that this pressure may cease, but until it does and we can be reasonably sure of it, we must maintain powerful armed forces to deter, and if need be, to defeat aggression.

Meanwhile, here at home, it is also proposed that we meet the 24 percent cost of civil benefits; a 10 percent item to cover interest on the national debt; and the 3 percent that is necessary to the administration of our civil operations. The estimated grand total as of now for 1958 is 73 billion, 800 million dollars.

The budget the present Administration took over in 1954 was for an estimated 77 billion, 900 million.

Remember, this is Operation America.

The challenge to our economy is the greatest in our peace time history.

Our people are doing more sober minded thinking on the subject than ever before.

It is a most encouraging sign and much good can come of it. It's possible that in recent years what has appeared to be the public will in many instances, has been too largely expressed by relatively small groups whose incessant clamor for more of everything has added up to an unbelievable strain on our ability to pay taxes in support of it. If this be true, then it could be that today's commendable concern can be so reported to the nation's leadership as to help us to so alter our course as to provide the extra safety factor directed by a more wide-spread public judgment.

In so doing, however, none of us should forget the position in which official Washington now finds itself—irresponsible across-the-board slashes must not be allowed to so cripple strategic services for a growing nation as to err dangerously on the side of seriously hurtful omissions.

Among other things, I have never been an advocate of federal aid for our public schools. At the same time, this does not mean that we can risk being blind to the fact that even now 31 million, 500 thousand of our children are crowding our public schools to the extent of 2¼ million pupils more than the normal capacity of the available facilities. Furthermore, enrollments continue to increase by well over a million students a year.

Responding to his constitutional obligation to recommend such measures as he shall judge necesary and expedient, the President has proposed a four-year emergency program designed to relieve the classroom crisis. The estimated cost for 1958 is 451 million dollars. The total four-year cost is expected to be a billion, 300 million. What shall we do about it?

This is typical of the questions we must answer as we remember that this is Operation America—a beachhead for freedom that must continue to be an inspiration to the freedom-loving peoples of the world and proof positive that communism is no match for it.

With all our dreams of progress, however, we must not destroy our economy. This need not happen if we will exercise the intelligent patriotism of which we are so capable.

I do not agree with those who are inclined to say, "It won't work," when the President urges the nation's leaders in business and labor to voluntarily exercise the precautions that the inflationary tendencies of these times so plainly recommend.

If such be true and we must resort to the force of government controls, then this is not *Operation America*

If this be true, then we as a people have no reason to expect President Eisenhower, John Foster Dulles, and others like them to succeed in maintaining the peace in the midst of all the conflicts that are so stridently a part of the international situations that surround us today.

Certainly our domestic problems, as numerous as they are, are no more difficult than the tangle of turmoil in which our top leaders have thus far so successfully avoided a truly cataclysmic clash of arms.

We expect them to continue to succeed.

They must!

They cannot fail!

Neither can we if *Operation America* is to continue to be the beachhead for freedom that became our happy destiny when Columbus, as the poet puts it,

> "—pale and worn—kept his deck,
> and peered through darkness. Ah, that night
> of all dark nights! And then a speck—
> a light! a light! a light! a light!
> It grew, a starlit flag unfurled!
> It grew to be Time's burst of dawn.
> He gained a world; he gave that world
> Its grandest lesson: 'On! Sail on!'"

# RESEARCH AND PRODUCTION

PRESIDING: WILLIAM U. HUDSON, 1956 President of N.C.A.

MEETING CHAIRMAN: JOHN T. KNOWLES, Libby, McNeill & Libby, Chicago; Chairman, Scientific Research Committee, N.C.A.

DISCUSSION: "Problem Solving"—WARREN BERG and WALTER CAIRNS, Arthur D. Little, Inc., Cambridge, Mass.

ADDRESS: "The Impact of Automation on Industry"—Dr. W. R. G. BAKER, General Electric Company, Syracuse, N. Y.

ADDRESS: "Food in Civil Defense"—Dr. ROY C. NEWTON, Swift & Co., Chicago

ADDRESS: "Food Industry Civil Defense Schools"—HOMER J. McCONNELL, Director of Civil Defense Training Program, Food and Drug Administration, Washington, D. C.

## Problem Solving

**By Warren Berg and Walter Cairns, Arthur D. Little, Inc.**

One observer of American life believes that we have become so research-minded that if a man trapped in a burning building were to call for help, the response would be a study of combustion.

Representing as I do the business development section of a company made up of several hundred research consultants, I wish this statement were more nearly true. However, it is true that research guides our destiny and will be as significant to our future economy as it has been to the past.

Recently we logged in the 60,000th client research project to come to our laboratories. One of our senior scientists commented that this represented a lot of problems. Intrigued by his use of the word "problem" rather than "solution," I pushed him for further comment. He remarked that one big difference between industry then and now is that today industry more often recognizes its problems as opportunities; and their solution as catalysts in the profit-and-growth process.

The research worker—the scientific mind—develops his own method for seeing through the camouflage with which nature or man surrounds all problems. Using his analytical skill he strives to define the real problem and isolate it, and now looking at it straight in the eye he is closer to a possible solution.

The function of a businessman, also, is to solve problems. The last decade has seen remarkable innovations in the application of scientific methodology to the solution of problems in sales, production and other areas considered to be management functions. Indeed, the successful businessman in the long run creates problems, not just to complicate his life, but to gain the rewards that come from solving them. A business without problems is decadent. A business with problems it cannot solve is in trouble.

The continuous recognition of problems and their steady solution are the lifeblood of a healthy business. Neither business organizations nor the men who run them realize their full potentialities without testing their abilities; they do not grow without the challenge of real problems.

Successful problem solving begins with the attempt to see the problem in different ways and to bring it into focus. Successful problem solving does not begin with a search for answers; it begins with the flexibility of your perception, with your ability to ask the right questions.

1. Does a problem actually exist? Do you recognize it as a problem?

2. Do you know the real problem? Have you evaluated it?

Only now are we ready to tackle the solution, but

3. What is the best means of solving your problem? Have you selected it and used it?

And now assuming the solution of your problem has been reached, the most important question follows:

4. Have you derived maximum benefit from the solution? Have you exploited it?

*(At this point Walter Cairns, as the cab-driver, interrupts from the audience.)*

CAIRNS: Just a minute, Mr. Berg, I have a question. You seem to be using a lot of fancy words to talk about ordinary common sense. I personally don't go along with it, but I'd be interested in hearing why you think all this is necessary.

BERG: I'll do the best I can to answer your question. Would you please identify yourself?

CAIRNS: Sure, my name's Walter Cairns; I drive my own taxicab and I had some real problems I licked a little while ago, but I sure didn't use your complicated system.

BERG: Perhaps you were using this analytical approach without realizing it. Please go on, Mr. Cairns.

CAIRNS: Well, about a year ago business was pretty bad. I couldn't figure out why. I thought perhaps things were rough for all the other cabbies in town and I just hoped that eventually things would pick up. After I looked around a little, though, I found the other boys were making out just fine. In my town most people know each other, and cabs must depend on repeat business from fares who know and like us. These short local trips, where I really make my money, had fallen off, but of course the trips to the airport with salesmen from the hotel stayed about the same. That airport trip's not so hot anyway, with the heavy traffic and the road that's being all torn up. Anyhow, I figured that if the other cabs were doing ok, something must be wrong with me. While I was thinking, it occurred to me that all the cabs spend too much time not making money. In a nutshell, it seemed that I had to correct what was wrong with my cab and if I could cut down on the usual non-productive time, I'd be so much ahead.

BERG: This is the first step in problem solving, although you didn't realize it. You knew something was wrong and you intended to correct it. In other words, you recognized that a problem existed.

CAIRNS: I guess you're right, but I certainly didn't use all your other steps, and now I'm the most successful driver in town.

BERG: Tell us what you did, Mr. Cairns.

CAIRNS: If you're not using that projector maybe some of the pictures I have with me will given you an idea. Could I have the lights out, please.

(Slide No. 1—Snarling cabby at wheel rounding corner on 2 wheels—old lady passenger on residential street.) As you can see, my cab's not too fancy, and I had thought about getting a new one to improve my business. I talked it over with my wife, who didn't think that the new cab would help at all. (Slide No. 2—Cab splashing woman with bundles at street corner hailing cab.) As a matter of fact, she thought a new Caddy wouldn't improve my business as long as I was such a sourpuss. Of course, we had another fight, but I began to think maybe she was right. Too many passengers had been getting under my skin lately, with all their yapping and the special favors they kept asking for. (Slide No. 3—Collision between cab and another car. Driver snarling.) The other cars in traffic used to get my goat too, but I was happy to pay to straighten out a fender I had banged in showing another guy who was boss. Anyhow, I decided to try being a nice guy, just to please my wife.

BERG: Then, while you first thought that the appearance and condition of your car caused your business to fall off, you realized that the real problem was your unpleasant disposition. That's what we call problem evaluation.

CAIRNS: Here's a picture of that lousy road to the airport. (Slide No. 4—Cab in heavy traffic—road under construction—sign, "Airport 16 miles.") I began thinking about all the non-productive time I and all the other cabbies have every day. I decided I'd keep a log of my time for two weeks, and see if there wasn't something I could come up with to bring in more money. Was I surprised to find that those airport trips were chewing up the best part of my days! Sure, they brought in good regular money, but the time spent covering that torn-up road meant that you didn't come out too far ahead. That's when I realized I had to find a new route to the airport.

BERG: In other words, this problem, the one common to all drivers, was not unavoidable idle time, but was largely the time-consuming trip to the airport. Again, you have used the second step in problem solving—evaluation. You have examined the problem in order to determine its actual nature, not just what it appeared to be at first glance. What did you do then?

CAIRNS: I asked a few close friends if I really was a sourpuss, and they all seemed to agree with my wife. It's pretty tough to realize that your personality needs an overhaul, but I knew that's what I had to do to regain the customers I had lost. I considered trying to help out myself by talking to my friends and reading a few books, but after a few weeks I found that I really wasn't making much progress. I finally agreed with my wife that I needed expert advice—from somebody who could understand and explain my problem to me. She invited her cousin, who's a psychiatrist at the Veterans' Hospital, to come over to our house one night to look me over and straighten me out. Of course, she just said that he was spending the night in our town, but I knew the visit had been rigged for my benefit. (Slide No. 5—Cab driver on psychiatrist's couch.) As you can see, I finally made an appointment at his office. I never had much stock in psychiatrists before, but boy, was I wrong. In no time at all he put his finger on just what had been eating me, and figured out a way to get rid of this little problem. Within a few weeks I felt like a new man, and my business even seemed to pick up.

BERG: I think it is significant, Mr. Cairns, that you selected the most adequate solving technique, having first tried and rejected talks with your friends and assistance from reading. In short, you selected and used the best means of solving your personal problem. How did you go about finding a better route to the airport?

CAIRNS: I knew there must be a better way to the airport, but I also knew that as soon as I found it the other cabs would use it. I could probably keep it secret for a while, but even when all the cabs used it, I'd have more time for short trips. (Slide No. 6—Cabby in parked cab in woods no passenger—looking at map, stop watch in hand.) I bought a map from the county engineer's office, took along a watch, and started looking. I discovered a small unpaved road that ran for a quarter of a mile between two blacktop roads that weren't too bad. This link was all I needed. I soon worked out a route to the airport that took three-quarters of the time it takes on the torn-up highway.

BERG: After you evaluated your problems to determine their actual bases, then, you selected and used the proper solving techniques—the psychiatrist, the map and watch. You've performed the third problem solving step.

CAIRNS: Well, maybe you're right.

BERG: Before you go, though, sometimes the most important step in handling problems is "exploitation" which simply means deriving maximum benefits from solutions to problems. Many times a solution can be applied to an identical problem. Mr. Cairns, did you find any uses for your solutions outside of your taxi business?

CAIRNS: Yes, I guess you might say I did. (Slide No. 7—Cab with driver, wife, 3 kids, loaded with vacation equipment driving on unpaved road in woods.) As you can see, I used the new airport route to head for our little camp at Crystal Lake. The family spends all summer there, but the fast route enables me to drive down pretty often after work. If I had to fight the torn-up highway, I guess I'd stay home during the week and live on beans and soup. The most important thing I've gained, though, is a happy life at home, with my kids as well as my wife.

CAIRNS: Say, I just realized, you're supposed to be doing the talking, and here I am taking up all your time. In a way, though, I am glad I sounded off. Although I don't think the fancy words are necessary, I think you may be on the right track.

BERG: Thank you, Mr. Cairns, we've enjoyed listening to you. I hope that you haven't minded my use

WALTER CAIRNS

WARREN BERG

of your story to bring out some of the points I wanted to make.

CAIRNS: Not at all—nice talking to you. Goodbye!

BERG: Goodbye.

(The final ten minutes were spent in a slide presentation of classical "How You Look At It" problems, each one followed by a case history research problem in which the analysis of the problem, leading to the proper approach, proved to be the major element in the solution of the problem.)

## The Impact of Automation on Industry

**By Dr. W. R. G. Baker, General Electric Company**

For several years, any person who has had the necessary temerity to speak on the subject of automation has been faced with a singularly basic problem: how to define his subject. However, since engineers rush in where even canners fear to tread, I am prepared to make an honest attempt.

A few days ago I ran across a definition of automation that goes like this: Automation is the approaching push-button age in which the factory that works like a machine will replace the man who works like a horse. If we accept this definition, then perhaps we should name Rube Goldberg, the cartoonist, as the "father of automation" because his humorous depictions of bizarre automatic devices were popular even before the word automation was coined.

What makes automation such a fascinating topic to engineer or social scientist, manager or labor leader, is that each person views it from the perspective of his own experience. This perspective, I feel, sometimes creates distortion. Like the elephant that the blind men touched in the classic fable, automation can be variously a wall, a tree, a rope, or a snake. Whether you conceive of automation as a wall upon which we can build a higher standard of living, a serpent that threatens our way of life, a tree that will help protect us from the storms of international conflict, or a rope by which civilization will hang itself, depends entirely upon your point of view.

To my mind, the answer lies considerably to the right of center, but I cannot view automation as a panacea for all the world's ills, and least of all can I swallow the tumultuous alarms of the prophets of doom. Let me make this clear: automation will not precipitate a second industrial revolution; but it is already bringing about a vital period of industrial evolution.

### What is Automation

Now that I have perhaps succeeded in confusing some of you, I shall get down to my definition. In contrast with some definitions I have encountered, this one has the double advantage of being short and easily understandable. By coincidence, it is the definition which the General Electric Company has adopted: "Automation is continuous automatic production." By this I mean continuous automatic production largely in the sense of linking together already highly mechanized individual operations. As our Company's president, Ralph J. Cordiner, has said, "Automation is a way of work based on the concept of production as a continuous flow, rather than processing by intermittent batches of work. It is only one phase in the process of technological progress, a natural evolutionary step in man's continuing effort to use the discoveries of science in getting the world's work done."

Although engineers are famous for tossing out complicated technical terms at an unsuspecting audience, I shall restrain an urge to explain such terms as "closed loop," "feedback," or "servomechanism." There is an abundance of excellent literature which explains these aspects of automation and I shall not take the time to go into them now.

Let us examine a more fundamental area: the need for automation. Our population and our gross national product are growing at an unprecedented rate. If we look ahead 10 years to 1967, we find we are faced with planning for an economy based on a population of almost 200 million people and a gross national product of $570 billion. In 10 years, disposable personal income should rise to more than $400 billion. On this basis we will need to produce about 40 percent more goods and services but we must do it with an increase in the total work force of only about 14 percent, because the greatest population growth will be in the age groups that are too old or too young to work.

Dr. W. R. G. BAKER

This means just one thing: in the years to come, while we are waiting for our work force to catch up with our production needs, we must strive to increase our productivity. And automation is the handmaiden of productivity.

It should also be kept in mind that automation, when used properly, can also help overcome rising costs of labor and materials. Furthermore, America has a fine tradition of industrial efficiency and progress. The entire concept of automation fits perfectly into this tradition.

### Need for Automation

To sum up the need for automation, permit me to quote again from Mr. Cordiner.

"1. Technological progress is necessary if we are to continue to raise the American standard of living even at the same rate as in the last decade. It is even more urgent if we are to accelerate the rate of progress.

"2. Technological progress is also necessary from the point of view of individual companies; those companies, large or small, which continually modernize in order to serve their customers better, will prosper in our competitive economic system.

"3. Progress toward greater mechanization and automation is in the best interests of all the groups that business must serve—customers, share owners, employees, suppliers, and the public.

"4. Technological change is a gradual, evolutionary process which creates employment and exerts a stimulating and stabilizing effect on the economy. This can and will continue as long as business has the incentives and freedom to grow, and to create new products and industries.

"5. The benefits of mechanization and automation are so profound—and so urgently needed—that we must encourage those companies that push the advances which make industry more productive."

Almost every day, we read in our newspapers and magazines of new applications for automation. Let me just cite a few which happen to fall into the food processing industry. There is an electronic egg candler

which examines 7,200 eggs an hour. Eggs with blood spots are automatically rejected by the photoelectric device. Those of you who grew up on farms know that the fastest hand rate is about one egg a second for a short period of time.

There is a machine which counts cherries for canning, and a huge machine recently installed by a large baking firm which can automatically draw from bins and mix all the ingredients for several types of cookies or crackers, delivering the proper mixture to any of sixteen mixing machines.

There is even electronic help for the fellow in the story who had trouble sorting potatoes into piles of big ones and small ones. You remember he complained that though the work wasn't too hard, he said, "It's these decisions that are killing me." New electronic machines will make that type of decision—one is being used now to sort lemons into five different color groups, ranging from dark green to tree ripe. And this machine's electronic eyes don't get tired near the end of the day.

### How It Started

How did all these wonderful machines come into being? How do we organize for automation? To answer these questions, let us first go back a bit. Automation started with materials that flow. It has made great contributions to the petroleum refining, chemical and food industries where flowable materials are involved and the processes are essentially continuous in nature. One of the best recent examples of automation is our pipeline industry. Today, our pipelines, large and small, short and long, carry just about everything that can flow: petroleum products, wood pulp, whiskey, milk, antibiotics, fruit juice, sulphuric acid—and even coal. Through remote control and automatic devices, all the pumping and switching can be done without a human hand touching a valve.

Today automation has been extended to non-flowable materials. Under the pressure of economic necessity, manufacturers have found ingenious ways to make separate items flow through production processes. Pistons and cylinder blocks, condensers and refrigerator doors are processed automatically. New pretzel-bending machines can duplicate the skill of a human hand because buyer preference made it necessary to retain the traditional design of manually-tied pretzels.

But what about pots, pans, or power shovels? It is safe to say that kitchenware manufacturers are cutting costs today through automation. High volume and the inherent possibility of standardization make the automation of pot and pan production a logical and necessary procedure. Power shovels present a different problem. It would be impractical to set up an automatic plant for production of a few, complex, earth-moving machines. However, large, custom-built products may contain many standardized parts and assemblies that could well be produced automatically.

### What, When, How to Automate

Can you afford to automate? For each company, there is an optimum degree of automation. Generally speaking, you couldn't compete if you were to attempt large-scale chemical production without a high degree of automation. On the other hand, you couldn't compete if you tried to automate the production of a few custom-built units.

What to automate clearly depends on the evaluation of such factors as anticipated design life, the period over which an investment in automation must be amortized, and the cost reduction per unit achievable through automation. You must measure the cost elements of every operation in your plant against the cost of performing the same operation more automatically. When this is done, you may well find that you cannot afford not to automate.

In many types of production, automation has to be a gradual process. Much study and planning must take place before the decision to automate any one area or the entire plant is attempted.

As a start, examine these five phases of manufacturing and decide whether you can perform one or all of them automatically: making, inspecting, assembling, testing and packaging. If you can make, inspect, assemble, test, and package automatically, then you tie them together with automatic control and handling.

Sometimes it is impossible to tie all these phases together into an automatic plant but much can be gained by linking two or more of the steps. For example, a new automobile engine block machine, 1,100 feet long, can handle 50 engine blocks per hour. This equipment performs 385 separate machining operations, plus 200 separate inspections on each block.

There is also a new x-ray inspecting machine which can be coupled with a production line in a canning plant. This machine automatically monitors and rejects every can that is overfilled or underfilled. As you know, the problem of overweight is an important one in the canning industry. Here is an application of automation that can save thousands of dollars a week in a large plant.

Now let us examine some factors which affect automation. The first is product design. Sometimes it is necessary to make radical design changes in order to achieve automatic production.

A simple example is the ice cube. Years ago, before the advent of mechanical refrigeration, ice produced in the winter was simply chipped down to cool a summer drink. Then mechanization brought us the true ice cube. But efficient automation was made possible by a radical design change and now we have the familiar cylindrical ice with the hole in the center which is made by continuous automatic production. In this particular instance, the new design makes a more efficient product because more cooling surface is exposed.

Plant layout is another factor which affects automation. Traditionally, factory departments have been laid out according to the specific manufacturing step to be performed, such as "foundry," "welding area," or "shipping department." Automated production has to be laid out and organized so that a series of operations are performed one after another as the work flows through an automated line.

Selection and use of production equipment is important in automation. One choice is to arrange existing, standard production machines in product lines and to link them with automatic transfer devices. Another solution is to purchase new equipment, available today with built-in automatic transfer devices. The third choice, often necessary when the work is complex, is to build special purpose equipment for the desired operation. Though designed for one special use, such equipment will probably contain many standard machine-tool and control components.

Still another factor affecting automation is business planning. Delegation and coordination are essential. Sales forecasts and information on buyer needs have to be assembled by the marketing staff. Cost and profit analyses must be prepared by the financial group. New designs grow out of studies by engineering and new materials often require the purchasing people to find new sources of supply.

There is one more factor that must be considered and this is an important one. It is the human factor. Our industrial plants have come a long way since the industrial revolution and working conditions are improving year by year. But everything that can be done to improve these conditions is another step in the direction of good labor-management relations. Automation takes the danger and dullness and drudgery out of industry. It gives people more satisfying work to do, at higher pay for higher skills.

### The Wonder Computers

No talk on automation would be complete without mentioning computers, or, as they are popularly called, "electronic brains." Rather

than go into any detailed discussion about the actual mechanics of analog and digital computers, I would prefer to give you some examples of what they can do for industry and how they relate to automation.

The very concept of automation implies constant and accurate control. And this control, except for the initial starting and final stopping of the equipment is often performed by some sort of computer. These computers are valuable at all stages of industrial production, from the original business planning, through the manufacturing and on down to the packaging, warehousing and shipping.

Here are some examples of what they can do. One of our large companies has recently set up a data processing center where electronic computers will assemble, analyse, and interpret commercial data from plants all over the country.

And one of our large banking firms is installing computers each of which will perform daily bookkeeping tasks for 55,000 commercial checking accounts, manned by only eight operators and clerks. Each machine will sort checks and deposit slips, maintain correct balances, and immediately notify the operator of an overdrawn account. It cannot make an error in arithmetic. Apparently the only thing it cannot do is to convince the woman who has trouble balancing her check stubs that she, not the computer, is wrong.

Just one more note on computers. As you know, the original giant computers were constructed with electron tubes to perform their vital functions. Today, the advent of the transistor is permitting computer manufacturers to replace some of the tubes with transistors, making for a more compact machine which uses less electricity and generates less heat. Just a few days ago, you may have seen the announcement of the development of a device called a cryotron. These cryotrons can replace both tubes and transistors in certain computer applications and they are so small that 100 of them can fit into a thimble. By using them, it is believed that computers occupying only a cubic foot of space may do the work of machines that now fill whole rooms.

The cryotron itself is simply a straight piece of wire with another extremely fine wire wound around it. In order to operate, they must be kept at an extremely low temperature —lower than 455.4 degrees below zero Fahrenheit. This temperature is achieved by cooling the cryotrons with liquid helium.

Their basic simplicity, which will allow them to be manufactured easily, should have a profound effect on the entire computer industry.

The subject of computers brings me to another area of automation which is extremely important but upon which I shall touch briefly. That is the role of automation in our national defense. Let me simply put it this way: automation is vital to our present defense systems. Many of our complex weapons systems could not operate without the automatic devices that have been built into them: our bomber and interceptor planes, our anti-aircraft weapons, or our missiles. Let me give you one example. Ten years ago our fighter planes carried 1,500 pounds of electronic equipment. The interceptor of today carried 2,400 pounds and the end is not in sight.

### Future of Automation

There is just one more aspect of automation that I would like to comment on today. That is its possible effect on employment. There have been fears on the part of labor leaders that that dreadful spectre of the 1930's, technological unemployment, will return to haunt us again. I think one of the best answers to this charge was made by economist Peter F. Drucker. He said, and I quote, "As long as automation is seen as a mere matter of technology, displacement of workers would be the thing to worry about. But considered in its larger dimensions, . . . automation's most important impact will not be on employment but on the qualifications and functions of employees.

"There may actually be no workers on the production floor of tomorrow's 'push-button' factory. There are practically none today in a power generating station or an oil refinery. But at the same time incredibly large numbers of men will be required behind the scenes in new, highly skilled jobs as machine builders, machine installers, repair men, controllers of the machinery and of its performance, and 'programmers' to prepare information and feed it into the machine.

"In addition, large numbers of highly educated men will be needed in new jobs as designers of machinery, draftsmen, system engineers, mathematicians, or logicians. Finally, large numbers will be needed for new managerial jobs requiring a high ability to think, to analyze, to make decisions, and to assume risks.

"And this increase both in the numbers of managers and in the demands made on them may well be the largest of all the social impacts of automation."

Our management team must help assure that we do not become so wrapped up in the magic of the word "automation" that we ignore some of the areas that can provide equally important rewards to our economy and our standard of living. The management team must find better methods of managing, and the solution of marketing and distribution and human relations problems.

In my own company, much concentrated effort is being placed on these areas. If we can make as good progress in these fields, as I know we must and will make in the technical aspects of automation, then we need have no fear for the future. The result can only be greater strength and vitality to our economic and social growth.

## Food in Civil Defense

**By Roy C. Newton,**
**Swift & Company**

A directive from the Federal Civil Defense Administration directed all government departments to investigate the needs and make definite recommendations for coping with various threats to the civilian population.

The Department of Health, Education, and Welfare designated the Food and Drug Administration as the agency to look after the supplies of foods and drugs as they might be affected by civil defense hazards. The FDA in turn asked for guidance in this work from the National Academy of Sciences—National Research Council. A Civil Defense Foods Advisory Committee was appointed. The membership of this committee was as follows:

Roy C. Newton, Swift & Company, Chicago, chairman; John S. Andrews, Research Department, General Mills, Inc., Minneapolis; Robert R. Baldwin, Central Laboratories Division, Research and Development Department, General Foods Corp., Hoboken, N. J.; Gail M. Dack, Food Research Institute, University of Chicago, Chicago; H. C. Diehl, The Refrigeration Research Foundation, Colorado Springs, Colo.; Arnold H. Johnson, National Dairy Research Laboratories, Inc., Oakdale, Long Island, N. Y.; Emil M. Mrak, Department of Food Technology, University of California, Davis, Calif.; George W. Putnam, Creamery Package Manufacturing Company, Chicago; and Frank L. Gunderson, Technical Consultant, Executive Secretary, Washington, D. C.

This Committee worked for nearly a year and submitted a detailed report making a number of specific conclusions and recommendations for immediate implementation. The recommendations include protection against such overt acts as biological warfare, chemical warfare, or sabotage.

The summary, conclusions and principal recommendations of the report are as follows:

Dr. ROY C. NEWTON

### Summary and Conclusions

1. At the request of the Food and Drug Administration a study has been made of the present preparedness of the major food processing and warehousing industries with respect to overt or covert special weapons attack and it is concluded that these industries are almost entirely unprepared for such possibilities. Since transportation of food is often an intervening step, it has been included and the situation is much the same for transportation as for processing and warehousing.

2. The food processing, transportation, and warehousing industries are aware of the possibility of overt attack and the results of radiological warfare because of civil defense activity and general publicity. These industries, however, are generally unaware of the serious possibilities or results of covert attack involving the use of bacterial or chemical warfare.

3. While the results of an overt attack could be serious to these industries in the area of attack, the Federal Civil Defense Administration and other agencies appear prepared to help in coping with the situation.

4. Although considerable information is available concerning overt attack involving RW, these industries in general have neither availed themselves of this information nor studied the problem. Information on the overt use of BW and CW, on the other hand, has not been available.

5. Certain segments of the food industry are extremely vulnerable to covert activity with BW or CW agents or both and possibly to RW because of the characteristics of manufacturing processes, the nature of certain foods and their ingredients, and the general unawareness of management, technical staff, and labor concerning the potential problem.

6. The fact that the food industries are unaware of the hazard of covert use of chemical, biological and/or radiological (CBR) warfare and that the Federal Civil Defense Administration (FCDA) and other agencies are unfamiliar with the complexities of food processing, makes the problem of the covert use of CBR warfare agents acute and serious.

7. Quality control as practiced in the food industries today cannot protect against CBR warfare.

8. Under present conditions of food manufacture, packing, and distribution, it would be possible to contaminate sufficient food with biological or chemical agents or possible radiological warfare (RW) agents to impair the health or endanger the lives of large numbers of people scattered over wide areas in the USA.

9. Although the susceptibility of major food industries to the covert use of biological, chemical, and possible RW agents varies greatly with the particular industry and even the manufacturer, certain generalizations can be made:

A. Processes involving the use of heat for preservation (e.g. canning) may be considered safe insofar as biological agents are concerned unless there is tampering with heat control instruments or seaming machines.

B. Processes involving the use of open collection, mixing, holding and storage tanks and sumps are particularly susceptible to covert attack with special weapons.

C. Ingredients used in processing, such as sugar (particularly liquid sugar concentrates), salt, vinegar, water, shortening, baking powder, leavening agents, chocolate, gelatin, starch, etc., offer particular hazard as carriers for CBR agents.

D. Fatty foods present special problems insofar as CW is concerned.

E. Materials transported in tank cars or trucks (e.g. liquid sugar, shortening, wines) are especially susceptible to covert acts during the transportation.

F. Minor ingredients such as spices, flavors, glutamate, food color, enzyme and vitamin concentrates, and preservatives conceivably could be carriers for chemical agents if sufficiently potent agents are used.

G. Where large amounts of air are brought in contact with the food (e.g. in pneumatic transfer of flour, spray drying, dehydration, etc.) the food may be vulnerable to contamination with CBR agents.

H. Since water is used so extensively for washing, heating, cooling, processing, and as an ingredient, and since it is frequently susceptible to contamination, it is of extreme importance insofar as both overt and covert special weapons attacks are concerned. Water-treatment operations such as chlorinators, ion-exchange systems, and others offer possibilities for covert attack.

10. Foods which are stored in refrigerated warehouses are relatively invulnerable to CBR warfare agents so long as the buildings are intact and prudent steps are taken to prevent unauthorized entrance.

11. Food which is thoroughly cooked in the home should be relatively safe against BW but is not safe against CW or RW agents.

12. Monitoring facilities for the detection of radioactive fallout are seriously inadequate.

13. Laboratories and potential facilities for the detection of biological and chemical contaminants are at least partially available in the food industries, but specific and ready "know-how" is largely lacking.

14. Facilities for clean-up are generally available for sanitizing and decontamination, but ready information and "know how" with regard to CBR agents are lacking.

15. There is an urgent need (a) for certain research to develop corrective measures which will reduce vulnerability to covert attacks and (b) for an education program to familiarize management and technologists of food industries with the potential problem relative to overt and covert attacks on the food industries.

16. A great deal of valuable information is widely scattered through various government agencies, but unfortunately this is of little use to the food industries because of the lack of integration or availability.

17. Recommendations to improve the present situation are included in the report.

### Principal Recommendations

The committee recommends that:

1. The Food and Drug Administration accept leadership in bringing about greatly increased coordination among various governmental agencies including the Federal Civil Defense Administration, U. S. Department of Agriculture, U. S. Public Health Service, the Business and Defense Services Administration and the Office of Technical Services of the U. S. Department of Commerce, the Atomic Energy Commission, the many pertinent divisions of the Department of Defense and others concerned, insofar as information relating to food industries protection is concerned.

2. The FDA provide special trained personnel to work with and encourage food trade associations and pertinent scientific societies (e.g. Institute of Food Technologists) to establish local committees in metropolitan areas to

study local and particular industry needs and to assist in laying plans for, and training management and technologists in, steps to be taken in an emergency.

3. The FDA apprise the food management and technical personnel of the processing, transportation, and warehousing industries of their vulnerability to the effects of overt and covert special weapons attack. Two means of accomplishing this may be by direct contact with a few key members of the industry, who in turn would contact others, and through trade organizations, scientific societies, etc.

4. The FDA obtain visual aids and appropriate slides and "movie" film to be used with live animal demonstrations to acquaint and interest management and technical personnel concerning the existence of the real danger of a special weapons attack upon our food supply.

5. The FDA arrange for the publication of an unclassified manual containing information on detection, decontamination, sanitizing, and handling foods, equipment, and premises contaminated with CBR agents. This publication must be made available to food industry management and technologists.

6. The FDA provide information for indoctrination and training programs and procedures for handling publicity in event of an emergency so that false rumors involving food supplies will be stopped.

7. The food industries be encouraged to assume responsibility for the above-mentioned indoctrination, training, and publicity programs through local meetings of scientific societies and trade organizations.

8. The FDA work with the food industry to develop and hold ready for Presidential Proclamation a practical and relatively uniform system for code labeling of food packages for use in case of a national emergency.

9. The FDA prepare a list of commercial and industry laboratories with notation of the competence and facilities of each so that any food company may know where reliable counsel and test work of kinds needed in an emergency can be obtained. Representative personnel from these laboratories should be included in any educational and planning program.

10. Research be undertaken to develop a simple and inexpensive but reliable monitoring device for RW that is feasible to own and use even in the smallest of food plants.

11. Research be undertaken to develop a simple but reliable procedure for the detection of CW agents that is feasible to use even in small food plants.

12. The FDA develop information, or arrange for research if information is not available, on the stability of agents used in special weapons attack in various foods and under various conditions of procesing, packaging, and storage.

13. The FDA compile for the food industries' use a carefully selected list of pertinent literature on information broadly helpful to guard against overt and covert special weapons attack.

14. The contents of this report remain unclassified and be made available to all interested people.

## Food Industry Civil Defense Schools

**By Homer J. McConnell,**
**Civil Defense Training Program,**
**Food and Drug Administration**

It is a privilege and a pleasure to talk to you at the National Canners Association Convention about the Food and Drug Administration's civil defense training courses for the food industry.

Since much time is spent on sabotage in these courses, I am going to demonstrate a very simple, but effective, sabotage device this morning. This will interrupt my talk without the slightest warning in a few moments.

While no attempt was made to fit my remarks into the Convention theme "Look to the Future," I find the subject has much to do with our having a future. The great master of military strategy, Frederick the Great, once said, "An army travels on its stomach." Certainly we realize neither an army nor a civilian population can long endure without a continuing supply of food adequate for their needs.

The Food and Drug Administration, operating under a delegation of authority from the Federal Civil Defense Administration, has been holding 5-day basic and 3-day refresher schools for food and drug officials since June of 1955.

Twenty-five hundred people have attended the 66 schools that have been held in 45 states during that time.

This year, as an extension of our civil defense training program, and in compliance with a recommendation of the Civil Defense Foods Advisory Committee of the National Academy of Sciences-National Research Council, we offer our program to the food industry. We have devoted considerable thought, preparation, and planning to the vulnerability of the food plants to radiological, biological, and chemical open and secret attack. We have worked in close cooperation with Howard R. Smith of your own Association on the plans for the canned food industry civil defense training courses. The first cannery school will be held in Rochester, N. Y., March 26-28, 1957. Other schools will follow as rapidly as possible and as we have the instructors available. Our instructors have made plant inspections to acquaint them with the actual points of vulnerability. These 4-day schools will open on a Monday, or a Tuesday, usually depending upon the wishes of the local association. The first day will be spent in the discussion of the destructive effects of atomic bombs and the nature of radioactivity. This technical background is built in order to show better the vulnerability of the plants, the raw material, and the finished foods to radioactivity that will be discussed later in the course.

A plant directly under the bomb fire-ball is no problem. It will be in the rubble zone following the blast! A plant in the second zone of destruction will be too badly damaged to be repaired. Somewhere beyond that area, dependent upon the bomb size and its relation to the earth's surface, we will find plants that can be repaired and returned to use.

When will they be safe to enter?

How long can people safely work when they do enter?

How do we remove the radioactivity bearing materials?

These and many other questions pertinent to the food industry problem will be answered during the 4-day school. We do not have the answer to all questions. The length of time that the initial radioactivity remains a hazard following the detonation of

HOMER J. McCONNELL

a nuclear weapon appears to be extremely short, while radioactivity from fallout produced by a "3-F" bomb can be a hazard for months or even years. Much research must be done before we will have anything closely approaching all of the answers we would like in this field.

Your questions—to the best of our ability—will be answered on an honest, factual basis by the instructors.

You will learn that certain effects of radiation can be measured and read by highly specialized electronic or chemical instruments. You will learn something about the operation of these instruments and how to make sure they are working correctly. You will find out which instruments must be used for each given situation. A pocket dosimeter would be worthless as a rate measuring instrument and a Geiger counter would be useless as a dose recorder. You do not measure alpha particles of radioactivity with a normal Geiger counter. However, since alpha particles will not penetrate unbroken skin, they are no hazard outside your body. When entry is gained into the body through inhalation or by eating or drinking, they may constitute an extreme hazard.

Types of bomb bursts may be identified visually, if people have had proper training.

Can you identify an air burst, a surface burst, or an under water burst?

Which one constitutes the greater hazard?

These things are known and are explained and shown on slides and in movies.

How much total body-dose of radiation can you receive each working day without incurring serious harm?

Remember that all radiation effects are damaging. There is no therapeutic dose.

Do you know that the National Bureau of Standards announced, in December, 1956, that it was considering reducing the annual total dose of 15 rem (Roentgen equivalent man per year per man) to 5 rem/yr? This would be a three-fold reduction. The equation to be used for computing this maximum permissible dose that can be received is: a man's age less 18, times 5. A 20-year-old person would be permitted a total dose of 10 rem by this equation (20 minus 18, x 5 = 10 rem). New information in the field of CBR warfare will be brought to our civil defense schools as fast as it is cleared for release to the public. All of the material in our training courses has been secured from unclassified sources, and security clearance is not necessary to attend.

Information and methods of determining future or past intensities and accumulated dosages will be supplied. Circular calculators, sometimes referred to as radiation slide rules, will be demonstrated and distributed to the members of the classes. These calculators materially reduce the time of such calculations. Once the operator is familiar with them, quite accurate results can be obtained. All methods of determining intensities and dosage start with actual meter readings. The time and reading must be recorded accurately. Some work on monitoring is included in the course.

The handbook *Civil Defense Information for Food and Drug Officials* containing 90 percent of all lecture material is given to all in attendance.

The hazards of biological and chemical warfare are explained in layman's language, and identified. Protective equipment and protective clothing will be explained and demonstrated. Points of vulnerability in food plants will be located. Decontamination methods will be presented. Some actual practice in radiological decontamination will be given. The training sessions will close with suggestions and discussion for the solution of an actual theoretical plant problem.

The need for food industry civil defense schools was clearly pointed out by the Civil Defense Foods Advisory Committee of the National Academy of Sciences-National Research Council, under the able leadership of Dr. Roy Newton. Just how great that need is, can be further emphasized by a true story. The FCDA at Battle Creek, Mich., has an excellent 5-day civil defense industry school that it has been presenting for all types of industry for several years. As of November, 1956, only one food industry, representatives of a small brewery in New York State, had attended that course. The so-called heavy industries, oil, steel, rubber, etc., have made great strides in civil defense planning for survival. However, their plans must all fail ultimately without adequate civil defense planning on the part of the food industry. Gentlemen, we can sit like fat, well-fed, contented Cheshire cats around our own fireside while the enemies' whirlwind of destruction grows by the minute, day, week, and perhaps months into a storm that we cannot hope to survive; or, we can take advantage of the opportunity to learn how to protect our people and our plants from sabotage and open CBR attack and then clean up and start producing again in a minimum of time. The need is great. The time is now. The opportunity is here. The answer may well be up to you, as to whether we have any future to look to.

It has been a pleasure and privilege to meet with you during your 50th Annual Convention. We believe our civil defense training courses afford you an opportunity to learn some of the details of this vital subject as related to your own industry. I have enjoyed discussing it with you and if you want additional or more detailed information, I shall be pleased to answer questions.

## C. C. Rathbun Given First State Secretary Award

C. C. (Cliff) Rathbun, executive secretary of the Florida Canners Association, was awarded the annual meritorious service scroll in recognition of his outstanding service to his membership and to the Florida canning industry over the past 25 years.

The award, the first of an annual series, was established by the *Canner and Freezer* magazine, and was presented at the annual meeting of the state and regional canners association secretaries, February 15, by Paul C. Clissold, publisher.

The award will be presented annually to the association secretary in the canning, freezing, pickling or preserving industry who best exemplifies the importance of association work to the well-being of the industry that they serve.

Mr. Rathbun became secretary of the Florida Canners Association when it was established in 1931. The annual meritorious service award recognized his important part in building and guiding the Florida association, which includes all of the citrus processors of that state, and the respect and cooperation he has gained from local, state, and federal government agencies as well as from contemporary civic and industry organizations.

# RAW PRODUCTS RESEARCH

PRESIDING: WILLIAM U. HUDSON, 1956 President of N.C.A.

MEETING CHAIRMAN: P. K. SHOEMAKER, H. J. Heinz Co., Pittsburgh; Chairman, Raw Products Committee, N.C.A.

ADDRESS: "Revolution in the Food Business"—The Honorable EARL BUTZ, Assistant Secretary of Agriculture, Washington, D. C.

ADDRESS: "Research—Our Pattern for Survival and Future Expansion"—FRED W. HATCH, Shell Chemical Corp., New York City, and President, National Agricultural Chemicals Association

## Revolution in the Food Business

**By The Honorable Earl L. Butz, Assistant Secretary of Agriculture**

The other day in Washington a big clock in the lobby of the Commerce Department building ticked off the number 170 million. The brief instant it took for that to happen marked the beginning of another milestone in our national growth.

Day in and day out that same clock keeps right on ticking. It is the Census Bureau's way of publicly showing at all times an estimate of our national population. Every 12 seconds the total population figure is increased by one to show a net gain, after making allowances for births and immigrants with offsetting deaths and emigration. Thus our population, now estimated at 170 million, is increasing at the annual rate of about 1.8 percent. Our total population will increase about an additional 3 million in the next 12 months.

Your theme at this 50th Anniversary Convention is "Look to the Future." This is most appropriate, for it reflects the kind of foresight that has undergirded the healthy growth and development of the canning industry. It points up the industry's important contribution to our country's increasing population and its expanding economy.

Fifty years ago our population totaled 86 million, just a little over half the number of people we now have. The canning industry was then in its infancy and up against a terrific struggle to make its way. The pack totaled only about 40 million cases. The number of canned products almost could be counted on one's fingers. In those days consumers resisted buying canned foods. Uninformed people were casting doubt on the purity and safety of these products. Ptomaine scares were promoted and given wide publicity in sensational publications. False and misleading information victimized the industry.

As you all know, the unhealthy situation prevailing at that time led to a program of positive corrective action in which the National Canners Association was organized. Through this united effort you have helped pure food officials improve their regulations as well as their enforcement. You have also aided canners in the improvement of their products, educated consumers on the value of canned foods, and promoted cooperation with producers and other elements of the trade. All of this has paid off in terms of growth, progress, and improved national wellbeing.

### RAPID GROWTH IN THE CANNING INDUSTRY

Today, the canning industry plays an important role in our economy. Last year's pack approximated 700 million cases, an all-time record that exceeds by nearly 60 million cases the previous high reached in 1951. During the past 50 years production and consumption of canned foods have increased from approximately 1 billion to about 22 billion cans or jars of food annually. The canning industry now produces about 600 different items. This compares with only 16 listed products a half-century ago, and only 52 listed products a quarter of a century ago.

The canning of food products in the United States has grown into a multi-million dollar industry. Highly perishable commodities are converted into nonperishable, easy-to-handle forms. The canning industry is not only an important source of food for consumers, but it also provides an essential marketing channel for thousands of farmers as well as for many fishermen.

Annual retail value of your products is estimated at over $4 billion. Canners pay farmers about $1 billion annually for agricultural commodities. Wages paid to workers producing the canned products amount to more than $350 million a year. The canning industry provides direct employment at peak season for about a half-million persons. This total is multiplied many times by the number of workers in the related industries that produce supplies and equipment needed by the nearly 3,000 canneries that provide the widespread distribution for their products.

Advances made by the canning industry typify the great changes that have taken place in our economy. They are the product of initiative, science and technology, encouraged by our free enterprise system.

Our ancestors of the long, long past depended for their survival on the hunt in the forests and on the plains. Today the hunt still goes on, but it now is centered in the laboratories among the test tubes and the atomic elements. A scientific explosion is taking place in our midst. We are in the very middle of a far-reaching scientific and technological revolution.

### PROGRESS THROUGH "REVOLUTION"

We are all familiar with the "industrial revolution" of the last century which gave birth to low-cost mass production and distribution. To a considerable degree, it provided the basis for our present high standard of living. This "revolution" came about through the introduction of new and cheaper sources of power together with a continuing flow of technological advances, sparked by research and invention. These developments brought more efficient methods of production. All of us today are enjoying the benefits in the form of the myriad of low-cost, mass-produced manufactured products that have become an essential part of our American standard of living. Technological advances are continuing at an accelerated rate, but the "break-through" which started this great surge came more than 100 years ago.

This bit of history is not new to any of us, but what may not be as familiar, or well-understood is the significance of the "revolution" and the spectacular turns it has taken, particularly in agriculture. Phenomenal changes have occurred in American agriculture, and still greater changes lie ahead.

The onrush of science and technology has had a tremendous impact on farming methods. It is modifying

the processing and distribution of agricultural products as well as changing costs. Last year our farms produced twice as much as in 1910-14, with one-third fewer man-hours of farm work. Output per man has tripled. In little more than a quarter-century we have come from a horse-and-mule power era into a new period that is characterized by its emphasis on the use of brainpower. Our agriculture is now characterized by scientific farming and a high state of mechanization. Much of this took place in rather recent years. Three-fourths of the increase in farm productivity per man-hour over the past half-century took place since the beginning of World War II.

Because of this "revolution" our agricultural plant is able to support a population that has nearly doubled in the last 50 years, with the number of people employed on our farms reduced by more than two-fifths. Looked at another way, the production from each farm worker now supports approximately 20 persons, including 18 in this country and 2 abroad. This compares with only 7 persons a half-century ago. A generation ago, in 1930, the average farm worker produced enough for himself and only 9 others.

Since the turn of the century there has been no significant change in the total acreage harvested. However, the productivity of this land has been increased by higher yields and more efficient methods. Quality of our farm products also has been improved through extensive breeding work and the development of better cultural, harvesting, and processing practices.

### Family Farm Has Grown Larger

The agricultural plant has been completely transformed, but the family-operated farm still dominates the picture. Farms today are larger, more efficient, and more specialized in production. In part, these developments have been brought about by mechanization. With an increasing investment in machinery and equipment, the individual farm has had to grow larger to provide a producing unit that would permit efficient utilization of this mechanical equipment and would also provide full employment for the farm family.

The rising investment in farm machinery, fertilizer, and other similar items has made land itself relatively less important as a production resource. In the past 15 years the contribution of cropland to each unit of farm output declined by nearly one-fourth. At the same time, the use of fertilizers per unit of output almost tripled and the use of tractors and trucks doubled. Use of other types of specialized machinery increased even more.

The expanded use of these various production items has raised efficiency and greatly increased productivity. That is why American agriculture is able to feed and clothe an increasing number of people per farm worker and per acre of land. Machines, agricultural chemicals, and other purchased items will undoubtedly continue to be substituted for farm labor, workstock, and land in production. From this we can anticipate a continuing rise in our agricultural productivity.

These changes in the relative importance of production resources have substantially increased the amount of capital required for operating a farm. Fifteen years ago, the average U. S. farm had about $3,500 invested in land and equipment for each farm worker. Today that figure is over $15,000 per worker. On many commercial family farms this figure runs up to $50,000 or higher.

The modern farm necessarily must be operated in a complex scientific and social environment. This calls for increasingly competent individuals who possess the knowledge and skills to keep abreast of the rapid changes in farming. The job of running the modern family commercial farm calls for a higher level of managerial capacity than many entrepreneural businesses in our typical county seat towns. Managerial decisions must be made each week covering a dozen different subject matter areas.

### The Food Industry Is On The March

The "revolution" we have had on the farm has been paralleled by one no less spectacular in the processing and marketing of most food products. Improved handling and transportation methods have reduced the time interval between harvesting and processing. The great expansion in food processing research and the tremendous improvements during the past 15 years in processing techniques and equipment have served not only to increase the efficiency of processing operations, but also have permitted a better job of quality control.

Automation—about which we have heard so much lately—is really just getting under way in the canning industry. Automatic box dumpers, pallet handling with fork lift trucks, high-speed fillers, continuous cookers, and automatic case fillers are but a few of the materials handling and labor-saving devices that have been developed.

Equally great strides have been made in the distribution and merchandising fields. Self-service in retail food stores has led to larger and larger units. It is not at all uncommon for these supermarkets to display on their shelves 5,000 or more different items and have up to a dozen or more check-out counters. Back in the 1930's a food store with 1,000 items would have been a large one. The trend also has been toward multi-unit retail food store organizations with fewer independently operated establishments.

The essence of self-service retailing is that products must sell themselves. As a result, vast expenditures for advertising and promotion have become necessary to make consumers product and brand conscious. Much attention has been devoted to devising eye-catching labels and developing various improved merchandising techniques.

The consumer, of course, is the final judge. During the past 15 years marked changes have taken place in consumer preferences and attitudes toward foods. Price appears to be less of a consideration and quality more important than formerly. Convenience—built-in service—seems to be a key factor to consumers nowadays. Food products which offer this convenience are finding a ready demand, and per capita consumption of these foods is increasing. That has been the experience with processed fruits and vegetables as well as with other ready-to-cook or ready-to-eat foods.

The sweeping changes that have taken place in production, distribution, and consumption are all reflected in our economic growth. Among other things, they have reshaped market demands and intensified competition. However, the outstanding feature in all of this is the remarkable improvement that has taken place in our standard of living. Last year we in the United States enjoyed a level of purchasing power some 50 percent higher than in 1940, after allowing for the rise in income taxes and in prices during that period. Ours is a dynamic economy, and the most constant thing about our society is change.

### Never Was the Future So Close as Now

Research and education have shortened the time span of progress. Right now we occupy ringside seats in the field of science and technology from which during the next decade we will witness developments equivalent to changes our forefathers took generations to accomplish. Never before in history has the future been so near to us as now.

The population experts estimate that by 1975—less than 20 years from now—the number of people in the United States will approximate 210 to 220 million, or 40 to 50 million more than our present total. Moreover, the

economists estimate that by 1975 the size of the nation's economy will be almost double, and disposable real income per person should be half again as large as at present.

Economic growth of such magnitude will profoundly influence our production, distribution, and consumption. The pattern for that is already being set. The basic knowledge we learn today will determine what we can accomplish tomorrow.

In the Department of Agriculture we recently attempted to size up the production job ahead of our farmers during the next two decades. Our economists working on this problem found that considerable adjustments may be needed to balance farm output with the changing requirements ahead of us. Over-all agricultural production would have to be increased by one-third to meet expected needs in 1975. From where we are now, it looks like this can be done without too much difficulty.

The canning industry, of course, can look to continued sharing in the expanding market before us. Over the past decade and a half your industry increased its portion of the market for several products, despite the fact that it was faced with many new forms in which foods could be processed and merchandised. In recent years, for example, canned vegetables have accounted for about 37 percent of the total consumption of canned, frozen, and fresh vegetables. In the immediate prewar years the use of canned vegetables amounted to only 34 percent of the total consumption of vegetables in all forms. Since the immediate prewar years, per capita consumption of canned vegetables as a group increased by nearly one-fourth. Canned fruit juices and canned fruits likewise are a more important part of our total consumption today than was true before the war.

### There's a Good Market Ahead

Based on conditions indicated for 1975, per capita consumption of all fruits and fruit juices may well increase roughly one-fifth, and that of all vegetables by roughly one-sixth. The trend for individual commodities may vary considerably from these general averages. Nevertheless, it seems likely that the total consumption of fruits and vegetables (except potatoes) will increase not only because of the increasing number of consumers, but also because of further dietary shifts from fats, cereals, and potatoes, to fruits and vegetables in fresh and processed forms.

How much of this expanding market will be supplied by canned products will depend in large measure on the canning industry itself. Producing a quality product for the consumer coupled with aggressive merchandising and competitive selling will undoubtedly continue to pay off.

From scattered information available, it appears that institutional eating places such as restaurants, hotels, hospitals, and eating facilities in industrial plants account for 15 to 20 percent of the national value of food consumed off farms. While the total usage of canned vegetables in institutional eating places is increasing, there is some indication that in the last few years this usage has not expanded as rapidly as that of vegetables in other forms. Along with the American housewife, many institutional buyers are shifting to foods

EARL L. BUTZ

which are nearer a ready-to-serve basis so that their own costs of handling and preparation can be lowered. Likewise recent USDA surveys of the frozen dessert, preserve, and wholesale pie baking industries (which in total use about 3 percent of the production of noncitrus fruits) indicate that sizable proportions of the fruit ingredients used by these industries are being obtained in frozen form. Both of these developments present challenges to the canning industry if it is to continue to keep its markets as broad and as active as possible.

Consolidations and mergers have, of course, taken place in the canning industry as in other segments of business. Census reports show that the number of canning firms declined from 2,265 in 1947 to 1,758 in 1954. Of those firms reporting in 1954, over 40 percent employed less than 20 persons. Over the next several years a number of additional firms will be faced with adjustments in order to keep pace with efficiency, acquire operating capital, or have sufficiently diversified or large enough supplies to meet customer requirements. Further consolidations both at the processing and distributing levels may intensify competition among packer and distributor brands. In some instances those marketing under packer brands may experience difficulty. On the other hand, a number of consolidations at the retail level appear to involve firms small to intermediate in size. In some of these situations the drawing power and established reputation of packer brands may be regarded as having particular value by retail management.

The canning industry must be alert to changes in competition for the housewife's food dollar. These will continue to arise from foods in fresh and frozen forms and in the services incorporated with these foods to simplify preparation for the table. Perhaps technology will devise still other methods of processing which will meet with acceptance from some of the buying public. But whatever changes may be needed, they all will occur in a market which seems destined to expand rather steadily and by a substantial amount over future years. The rewards for efficient management likewise will increase accordingly.

In our dynamic and growing economy, adjustments are inevitable. Leadership is constantly challenged to guide these adjustments along constructive and beneficial pathways. In the canning industry you have had to introduce many changes to keep abreast with the demands of rapidly changing times. From the industry's present position you can look to the future fully confident and amply prepared to meet the changes that will continue to occur in the dynamics of the American market place.

Finally, let me congratulate your entire industry on the fine job done of merchandising your products in this vast and growing American market. You have elected to do the job yourselves. As a consequence, you have remained free from burdensome production controls and strangling marketing quotas. You have been free to grow along with the expanding American market.

No government price support, no government warehouse can ever be an effective substitute for this. Any industry that wants to participate profitably in the growing American market of the decade ahead must move aggressively and imaginatively under its own steam. If it tries to get there any other way, it will be outsmarted in the race by its competitor who is using his vision, his ambition, and his initiative.

# Research—Our Pattern for Survival and Future Expansion

**By Fred W. Hatch,**
**President, National**
**Agricultural Chemicals Assn.**

The opportunity to represent the national agricultural chemicals industry on the program of your 50th Anniversary Convention is indeed a great honor. Certainly your Association, representing one of America's greatest and most vital industries, can look back with pride on the contribution you have made to both the general economic welfare of our country and to the high nutritional and health standards of our people. Particularly noteworthy are the many advances in the agricultural field which can be directly attributed to your support and research. The dependence of our military on your industry is further evidence of its basic importance to our national welfare and safety.

Both individuals and industries, I think, react similarly to important anniversary dates. Certainly on a golden anniversary one should pause to review past progress; evaluate present position; and chart, to the fullest extent possible, plans for future growth. When Dr. Charles Mahoney, Director of your Raw Products Research Bureau, invited me to appear on your program, he suggested that I might assist in the evaluation of your present position insofar as the use of chemicals in agriculture is concerned; and further, to speculate with you on the direction the research so necessary to future progress in this field should take. It is my sincere hope that I might, in this address and the following discussion period, make some contribution to a better understanding of the agricultural and chemical use and research programs in which your industry shares with us a very specific interest.

In your industry it is essential that the farmers and growers supply you with raw products of the highest quality, free of insects and worms; unblemished by blight or other fungus damage or virus diseases; and without harmful residues. From a purely economic standpoint you also must be concerned with the ability of the farmer to produce crops for you efficiently and at reasonable costs. It is to these two objectives that a major part of the agricultural chemicals research, development, and marketing effort is directed. It would seem logical, therefore, to limit our discussion this morning primarily to these rather broad fields.

Before we do this, it might be useful to define the general field of agricultural chemicals on an end-use basis.

There are 216 commercially important compounds in five general end-use groupings. One clarification should be made, however; that while there are 15 more compounds sold in the fungicide group, insecticides sold have approximately three times the value and have, as a matter of fact, a far more general usage.

For purposes of this discussion we can eliminate the rodenticide classification. These compounds are of only occasional importance to your warehouse personnel and to the fruit grower who must protect the root systems of his trees from the ravages of field mice.

The insecticides, fungicides and fumigants, then, can be categorized as those chemicals designed to improve grade and quality of your raw materials. The herbicides which include defoliants have become a primary tool in the farmer's continuing struggle to reduce costs and offset labor shortages. They also contribute to improved product quality by eliminating weed competition for soil nutrients and moisture.

With this general definition of the agricultural chemical field we might perhaps further clear the underbrush with a brief look at the make-up of the industry itself.

The pesticide phase of the chemicals industry is comprised of approximately 100 manufacturers of one or more basic chemicals. These produce about 216 chemical compounds used as pesticides. Supplementing the active compounds are about 75 relatively inert chemicals or substances which are used as diluents and/or adjuvents in the formulation of pesticides so that they may be applied effectively and safely by the grower and other users. The volume and complexity of the pesticide industry can best be judged by the fact that the above-mentioned chemicals are formulated into more than 6,000 trade-named products by more than 300 companies in the United States.

This brief description of end uses of pesticles and of the agricultural chemicals industry as it exists today delineates a growth pattern which parallels, in many respects, the technological advances made during the past few decades by your industry. Both have depended on sound research programs which, following the trend of other American industries, were greatly expanded during and immediately following World War II. I think that we are in full agreement on the obvious need for further intensification and expansion of the research effort.

Of course, research in your industry necessarily covers an extremely broad field. It must concern itself with problems in the fields of biochemistry, nutrition, canning technology, home economics, as well as those relating to raw product production and quality. It is primarily in this latter field that our interests coincide.

Research as we know it today in the agricultural chemical field dates back to the late 1930's when the chemical industry, the land grant colleges, and the U. S. Department of Agriculture almost simultaneously commenced the search for new organic chemical compounds which would be more effective and more economical than the botanical materials used for insect control such as pyrethrum and rotenone and the inorganic materials used variously as both fungicides and insecticides like copper, sulphur and the arsenical compounds.

You are as familiar as we are with what this research has accomplished in the short space of 20 years. The chemicalization of agriculture is now in full swing, and we think it is just as revolutionary as the mechanization of agriculture has been.

Like mechanization, chemicalization greatly increases human efficiency, and the potential release of manpower and draw-bar power is strikingly high.

Let's take a brief look at some examples of the kind of work being done by agricultural chemicals today:

Certainly the use of synthetic fertilizers has led the way.

The new organic chemicals have revolutionized all aspects of pest control. For example: To control codling moth on an acre of apples only a few years ago eight sprays totaling 6 to 8 thousand gallons and containing 200 pounds of lead arsenate would have been required. That much arsenic applied to an orchard every year would soon poison the soil more or less permanently. You are all aware, I know, of the costly washing and residue removal procedures necessary to make the treated fruit meet your processing standards. Today codling moth is no longer a major pest in the apple industry. We can get better control with a pint of parathion than we ever got with 50 pounds of lead arsenate. There will be no poisonous residue on the fruit after a few days and none on the ground.

A little later I shall want to make further comments on residues resulting from the use of pesticides.

The codling moth example illustrates the revolutionary practices being brought about by the introduction of the new organic chemicals in the pesticide field. No doubt many other instances which offer even more striking examples of greater economic importance occur to you.

Without detailing other specific examples, let's list some of the chemical procedures which are so radically changing farming practices and pro-

moting the more efficient production of foods. These would include chemical seed treatment; chemical weed control; the utilization of chemicals for soil treatment designed to control nematodes; soil insects such as corn root worm and soil fungi and diseases such as rhizoctonia, verticillium, fusarium and root rots; also harvesting aids such as defoliants, desiccants and hormones used as fruit thinners and conversely to minimize the drop of ripe fruit.

The research program in the agricultural chemical field is both costly and complex. While we know that some of our larger companies are plowing back 10 percent or more of their sales proceeds into their research programs, it is estimated that industry-wide 4 to 6 percent is probably a more representative figure. Correlating this percentage to estimated 1956 sales of $250 million of basic toxicants at the manufacturers' price levels indicates that the chemical industry is investing $10 million to $15 million per year in its research on pesticides.

But government, too, has been accelerating its research effort, as evidenced by the fact that the U. S. Department of Agriculture research budget which was approximately $42 million in 1956 has been increased to almost $54 million for 1957. Recognition by our present administration that substantial investments in research which benefit agriculture are necessary is further illustrated by the fact that federal grants to state experiment stations and land grant colleges will approximate $29,500,000 in 1957 as compared to $24,750,000 in 1956.

Increased government expenditures have coincided with the almost phenomenal expansion of research staff and facilities of the agricultural departments of the land grant colleges and the state extension services which have been of vital importance to both the food processing and chemical industries.

Both your industry and ours must depend upon USDA and the state experiment stations to evaluate, by large-scale field tests, the usefulness of new chemicals. We look to their engineering departments for the design and development of more efficient mechanical equipment ranging from seeders to harvesters and including sprayers and dusters for accurate application of pesticides both directly to the plant and for soil injections. For many years you have depended on their horticultural departments to develop improved and more disease resistant varieties of fruits and vegetables. In recent years the colleges have established flavor testing panels to insure that chemical treatment of crops has not impaired the natural taste of raw or processed foods.

The need—I might be more specific and say, the necessity—for cooperative research and development between federal and state agencies, our industries and the farmer has certainly been accentuated by present-day requirements applicable to the registration for sale of pesticides; the compliance with recommendations for use stipulated by approved USDA labels and specifically by the recommended control practices of the extension services of the individual states; also by the urgent need to utilize our new or occasionally dangerous chemical tools safely and with the confidence that if they are used according to directions, residues will not remain on the harvested crop in harmful quantities.

FRED W. HATCH

Current requiremnets for USDA registration of pesticides were established in amendments to the Federal Insecticide, Fungicide and Rodenticide Act passed by Congress in 1947. This legislation was designed to require that manufacturers of pesticides establish through research, including field testing, proof of the claimed effectiveness of a chemical compound (and all formulations thereof) on pests infesting various crops at recommended dosages.

Control of chemical residues on food crops was assured with the passage of the Miller Amendment to the Federal Food, Drug, and Cosmetic Act in 1954.

The Miller Amendment was designed to permit the concerned federal agencies to establish, on a scientific basis, (1) the "usefulness" of a pesticidal material and (2) a "tolerance" expressed in parts per million or fractions thereof for each registered chemical compound where necessary. This defines "the margin of safety" of the material when residues remain on or in products that have been treated.

This legislation was initiated partially at the instigation of your organization, whose member companies were properly concerned with the need to assure safe foods to your consumers. I am pleased to say that the legislation had full support from not only your group but from that of the chemical industry, the federal agencies, the land grant colleges as well as from responsible farmer and consumer organizations. Its public relations value to the industry is shown in a recently published statement of Dr. Bernard E. Conley, Secretary, Committee on Pesticides of The American Medical Association, when he said in part:

"Pesticides play an important role in providing the nation's food supply and protecting the public health. Thanks to the Miller Amendment of the Federal Food and Drug Act the consumer is assured of an unparalleled degree of protection".

I stated earlier that research in the agricultural chemical field was costly and complex. The search for new compounds and the field testing necessary to establish economic usefulness are only basic costs. Research data required to comply with "control legislation"—registration and establishment of tolerances—have multiplied costs many fold and extended the time required to field test a new compound prior to initiating commercial development. Some of the statistics might prove revealing.

It is conservatively estimated that it now costs from $750,000 to $1,750,000 to bring a new pesticidal chemical from the research test tube to a registered commercial product. The wide variance in cost is directly proportionate to the degree of mammalian toxicity.

From four to six years are required from the original synthesis of the compound to initial commercial utilization.

After biological effectiveness has been established at the laboratory level, formulation problems must be resolved prior to field testing. The field trials must be made on a regional basis to cover the widest possible variations in soil and climatic conditions, insect or disease species, and degrees of infestation. Owned or leased land with tests being conducted by the research staff is utilized; or alternatively, the work is done under grants-in-aid to experiment stations, USDA or the land grant colleges. In the latter stages of field

testing, if the compound has shown commercial promise, I am happy to say that we have frequently had the cooperation of the food processing industry either in their own farming operations or through their contract growers.

Concurrently with the field testing, the toxicology studies necessary to insure safe usage and provide required data for the establishment of a tolerance under the Miller Amendment must be going forward. Initial tests are made on small laboratory animals to determine acute toxicity.

The final steps in developing toxicological data to be correlated with expected residues are far more extensive. For determination of chronic toxicity, the animal studies will involve the feeding of rats for two years and one-year tests on larger animals (dogs or monkeys). Data are required to measure residues in meat and milk resulting from feeding forage crops that have been treated with pesticides. Feeding tests on beef and dairy cattle and sheep must be included to measure residue levels in animal tissue. Finally, continued observation of exposed persons never ceases in order that protection of workers, formulators and consumers may be assured. If the test compound inherently has a high mammalian toxicity and is designed for usage on forage crops, these toxicity studies can be costly indeed. Toxicity costs for one single compound on which I have specific information approximate $500,000.

Essential to both toxicological studies and the residue analysis data which are required for the establishment of a tolerance under the Miller Amendment is the development of a precise method of chemical analysis. The degree of precision required can best be appreciated if you will make a quick computation of residues measured on the basis of an acre of land producing one ton of forage which has been treated at the recommended dosage of one-quarter pound per acre; and with the toxicant having a proposed tolerance of one-tenth part per million.

Under these circumstances the maximum potential residue on the one ton of forage would be two ten-thousandths of a pound. In those instances where it is found impossible to develop a chemical method accurate to this degree of fineness, bioassay techniques can be substituted.

I stated earlier that I would expand the discussion insofar as residues resulting from the use of pesticides are concerned.

This problem is not only affecting your present operations, but as the Miller Amendment controls become fully implemented in the 1957 season, both you and your growers will be confronted with the necessity of adjusting pest control practices in a manner that insures compliance with the new regulations.

Bear in mind that under this legislation the chemical industry has been obligated both in developing new pesticides and qualifying established commercial products for tolerances to make separate determinations of residues for *each compound*, for *each crop*, for *each application method* It has been necessary to replicate all of these tests 4 to 5 times in order to adjust for regional differences in climate, soils and horticultural practices. In many instances it has been necessary to make residue analyses on a *state basis* in order to obtain use recommendations.

The work involved can be appreciated only by outlining a typical case. Let's spell it out with a single crop. Let's take spinach, which is certainly important to canners. To test one pesticide in only one region or state test plots would be established either in cooperation with the land grant college of the technical staff of one of your companies. Plots one-tenth acre in size would be planted. The formulated toxicant would be accurately applied at several dosage levels, each replicated three to five times. A control (or untreated) plot would be established for each replicate. Samples would be harvested 1, 3, 7, 14 and 28 days after treatment. Two-pound samples would then be composited from each dosage level and each harvest interval together with a 4-pound sample from each check plot. The purpose of the large check sample is to provide material for analysis of the untreated crop and make recovery determination. Thus to conduct this one test, residue analyses would have to be made on a minimum of 54 samples.

This problem has taxed the analytical facilities of both industry and the land grant colleges to almost the breakpoint. Costs have been staggering. It has been further complicated by the fact that only a limited number of our experiment stations are equipped with either personnel or facilities to undertake this work.

I certainly hope that I am not leaving with you the impression that this forum has been utilized to relate what might be regarded as a "blow-by-blow description of the trials and tribulations of the agricultural chemistry industry." If so, it would indeed be unfortunate.

Our past experience and a knowledge of the outline problems presently confronting us combine to assist in both short- and long-range planning. Some conclusions are immediately apparent; first, it is certainly the responsibility of the chemical companies interested in the development and sale of pesticidal compounds to underwrite all toxicological and residue analyses work required to qualify their products for registration, recommendations and use.

Secondly, you in your industry will always be confronted with the responsibility of maintaining controls on your consumer products. To do this, each of your companies (or possibly groups of them on a cooperative basis) will have to establish adequate laboratory facilities with the necessary technicians.

Costs of raw material controls, however, need not be exorbitant and can, with sound planning, be fully amortized.

Your control laboratory staff, working in cooperation with your fieldmen and taking full advantage of the research and testing programs of the chemical industry and your state experiment stations, should insure closer processor-grower relationships. You will probably find it advantageous to develop a policy of issuing definite specifications to your growers as to what pesticides should be used and what spray schedules should be followed.

Supervision of the pesticide practices of your growers, coupled with adequate control facilities, should insure to your industry a higher quality pack. Therefore, since your washing and cooking procedures minimize or eliminate all raw product residues found in permissible quantities, a really significant sales advantage should result for your products.

The revolution we have seen during the past decade in farming practices and the advances achieved in canning technology and nutrition have resulted from cooperative research between your industry, the chemical industry and the federal and state agencies. This effort must be continued and expanded at all levels, utilizing every available facility to the fullest extent possible.

Together we will inevitably have to urge expansion of the educational institutions on which we must depend to supply technical man-power for continued growth.

We should individually and collectively support the Agricultural Research Institute which can make a most effective contribution to guiding future research.

Through this coordination of effort I am confident that your industry and mine will prosper and continue to make a major contribution to the public welfare.

# MARKETING AND SALES

PRESIDING: WILLIAM U. HUDSON, 1956 President of N.C.A.

MOTION PICTURE: "The Three Squares," co-sponsored by U. S. Department of Agriculture and N.C.A.

INSTALLATION of 1957 Officers

MEETING CHAIRMAN: A. EDWARD BROWN, Michigan Fruit Canners, Inc., Benton Harbor, Mich.; 1957 President of N.C.A.

ADDRESS: "How Consumers React to Trading Stamps and Premiums"—WILLIAM GILLEN, Batten, Barton, Durstine & Osborn, New York City

ADDRESS: "The Food Store Spectacular"—MARIE KIEFER, Secretary-Manager, National Association of Retail Grocers, Chicago

## How Consumers React to Trading Stamps and Premiums

**By William Gillen,**
**Batten, Barton, Durstine & Osborn**

The facts and figures to be presented here are the result of unbiased research conducted by BBDO.

Among the more than 140 clients served by our 16 offices in the U. S. and Canada are many who distribute their products through food stores. In order for us to keep abreast of marketing trends and thus to serve our clients better, our Marketing and Research Departments make periodic studies of various food industry operations.

During the past few years, BBDO's food staff has presented for the benefit of the food industry such studies as non-food items in grocery shopping, the male influence in grocery shopping, what consumers think about store operations, and why women select and shop in any one particular grocery store.

In all these studies, BBDO's purpose is to report what the consumers do or do not do on a factual basis. Their "reasons why" and "how" are often explored, and no attempt is made to editorialize or slant the material one way or another. The findings in each study are presented in a manner that permits one to draw his own conclusions.

Why was *this* study of trading stamps made?

Through the past 60 years, cash discount stamps, premium coupons, and continuing premium plans have been a part of various retailers' competitive weapons. In some sections of the United States these sales hypodermics have been used to a very large extent, and in others, hardly at all. In the past year, however, with the rate of sales increases slowing down for the first time since World War II, many food store operators turned to trading stamps as a promotional tool.

It has been generally agreed that the first store to offer stamps in a community usually gains extra at the start. When all store give stamps, this initial advantage may be nullified.

BBDO wanted to learn just what the consumers did when this general type of promotion was offered by retail stores in a given trading area. This study is the resultant report of consumers' trading stamp collecting habits in Syracuse and the surrounding towns in Onondaga County, New York. This is how this study was made:

A mail questionnaire was sent to 1,000 housewife members of BBDO's Onondaga Consumer Research Panel during the month of June, 1956. Completed questionnaires were received from 880, an 88 percent return. The questionnaire was divided in two sections—blue for those who do not save, and white for those who do save stamps and other store distributed premium credit plans.

We did not ask questions that call for consumers' opinions of future actions such as, "Would you continue shopping if your present store discontinued stamps," or leading questions such as, "Do you think prices in stores giving stamps are higher, lower, or same as in those not giving stamps," or another loaded question like "Do you feel you are paying extra for stamps or whether they are a gift?"

The consumer panel is a representative group of families living in Onondaga County in central New York State. It combines in one area practically all strata of community living. Syracuse, as its hub, is representative of a large city. On its outskirts, there are towns and villages which reflect suburban living. Then, beyond the suburbs, there are smaller towns and farming communities, which are typical of U. S. rural areas. Thus, in addition to being representative in a geographical sense, these families form a cross-section of the nation's population according to family size, age, income and education.

This report shows that 20 percent of the housewives do not save trading stamps or other premium credits, and that 80 percent do save!

As a means of verification, questionnaires were sent to a separate sample of panel members living in New York State (exclusive of metropolitan New York). The results obtained from this group did not, in any case, vary significantly from the Onondaga panel findings. For example, in New York State 85 percent of housewives said they saved.

Here are the reasons given by the 20 percent for not saving trading stamps or other premium credits. (The totals exceed 100 percent because of multiple reasons given by the housewives):

42 percent stamps not given at the store where I trade (this is by far the biggest reason).

14 percent nuisance, bother, inconvenience, not worthwhile.

13 percent too many needed and too long a time to get anything worthwhile.

12 percent prices higher. Cost of stamps passed on to consumer. Prefer to buy at saving.

8 percent don't regularly trade at stores offering them, don't have enough to bother with.

3 percent too many different kinds of stamps.

2 percent some give only on request, store forgets to give stamps.

10 percent no particular reason given.

Of those who do not save now, almost half have saved premium credits in the past. This group, representing 9 percent of the total panel, have discontinued the saving of stamps and other premium credits. And these are the reasons they gave for discontinuing:

27 percent say it "takes too long to save to be of value."

12 percent store discontinued stamps.

9 percent too much bother, nuisance.

9 percent cost of coupons was passed on to consumer.

8 percent no longer trade in store handling them.

8 percent do not trade regularly in store offering stamps.

6 percent moved to another place; stamps no good in new location.

5 percent store out of business.

4 percent stamps were lost, misplaced or destroyed.

4 percent did not accumulate enough.

4 percent too many different kinds of stamps.

3 percent husband shops; does not consider stamps worthwhile.

3 percent lost interest.

3 percent restricts freedom of selection of stores.

25 percent miscellaneous reasons (1 percent or less).

When we asked how long it had been since they last saved premium credits, here's what they said: 13 percent less than 1 year, 23 percent one year, 28 percent two years, 9 percent three years, 8 percent four to ten years, 8 percent more than ten years, and 3 percent indefinite, don't know or not reported.

Next we checked to see if the age of the housewife or the size of the family income were factors in saving or not saving. It would seem that younger women tend to be more active in saving trading stamps and other premium credits. It's interesting to note the increased percentage of people in the older age brackets who never have saved.

When we looked at the family income, we noted that among those with $5,000 and over incomes, there was a considerable drop in the saving of premium credits. About one out of four of the highest income group have discontinued saving premium credits and one out of five have never saved.

Among those housewives who save, over half save more than one type of premium credit plan: 43 percent save 1, 34 percent save 2, 16 percent save 3, and 5 percent save 4 or more plans.

Besides the 80 percent of housewives who save, these other members of the family save: 59 percent husbands, 12 percent sons, 6 percent other male members of family, 14 percent daughters, and 9 percent other female members of family.

When it comes to the length of time housewives have saved, it should be noted that, despite the tremendous growth of premium credit plans in the past year, four out of five of those saving have done so for over one year.

Here's where housewives obtained their premium credits: 75 percent got credits from a food store, 75 percent from a gasoline station, 25 percent from a variety store or 5 and 10, 17 percent from a hardware store, 13 percent from a dry cleaner or laundry, 9 percent from a drug store, 2 percent from an auto dealer, and 14 percent from other sources such as department store, dry goods store, gift and card shop, shoe store, barber shop, ice cream store, children's store, clothing store, lumber yard, paint and wallpaper store, dress store, oil dealer, florist, men's wear, coal dealer, jeweler, dairy, camera shop, shoe repair shop, or specialty shop.

By the way, there was even a funeral parlor listed in the Syracuse paper on March 22 as giving stamps. Happily, none of the panel members reported getting any stamps from this source!

One of the points we were interested in checking was whether or not the stores giving out stamps, etc. do so automatically with each purchase, or whether the customer has to ask for the stamps or other premium credits.

73 percent of the housewives say food stores give premium credits automatically, 18 percent on request, 5 percent say both.

65 percent say hardware stores give automatically, 28 percent on request, only 1 percent say both.

62 percent say gasoline stations give automatically, 30 percent on request, 3 percent say both.

52 percent say dry cleaners and laundries give automatically, 44 percent say on request, 1 percent say both.

39 percent say drug stores give automatically, 52 percent say on request, 8 percent say both.

32 percent say variety stores give automatically, 50 percent say on request, none say both.

Among the housewives who save, trading stamps accounted for 75 percent of the total plans mentioned. Coupons or premium certificates accounted for 21 percent. Cash-register tapes and sales slips accounted for 3 percent.

Of the 75 percent who save trading stamps, here are the kinds of trading stamps saved: 84 percent save S & H Green, 19 percent Triple S Blue, 18 percent Red (unspecified), 13 percent National Red, 4 percent Reliable Red Scissor, 3 percent Family Discount, 3 percent Consumer Profit-Sharing, 3 percent green (unspecified), 2 percent Double M Green, 1 percent World Green, 1 percent Cooperative Green, 1 percent blue (unspecified), 2 percent all others.

Of the 21 percent who save coupons, 90 percent save Loblaw Premium Certificates, 7 percent account for all other mentions, with 3 percent not reported.

While of the 3 percent who save cash-register tapes or sales slips no store names were given, I can fill you in one one name, that of a dry cleaner, Wilkins Castle, who made a deal with the W. T. Grant Company to have them give a credit toward purchases at Grants. Each of the cleaner's sales slips were rubber stamped on the back, "Keep this receipt. It is worth . . . toward the purchase of merchandise at any W. T. Grant stores in Syracuse. Not valid after 90 days."

After learning what types of stamps and premium credits the housewives of the Syracuse trading area save, we asked about the catalogs they had in the house. It's interesting to see that 45 percent of those who save had 1 catalog, 27 percent had 2, 7 percent had 3, 1 percent had 4 or more, and surprisingly enough, 20 percent had none!

As might be expected, percentages of catalogs for each premium credit plan ran about in the same order as the plans the housewives saved. Since there were more than one catalog on hand in some homes, the total exceeds 100 percent.

60 percent S & H Green, 25 percent Loblaw Premium Certificates, 13 percent Triple S Blue, 7 percent red (unspecified), 5 percent National Red, 3 percent Family Discount, 2 percent Double M Green, 2 percent Reliable Red Scissor, 2 percent Consumer Profit-Sharing, 2 percent green (unspecified), 1 percent blue (unspecified), 1 percent cash-register tapes and sales slips. World Green, Cooperative Green, and United Trading were all in less than 1 percent of homes.

Well, so much for the types of premium credit plans saved. Next we were curious as to the shopping habits of those housewives who save. So we asked if they did all of their shopping in only those stores which gave stamps or had other premium credit plans, or whether they shopped in other stores of the same type.

We found that in most cases, fewer than 3 out of 10 housewives shop at a store only if the store has a premium saving plan. And the highest percentage was in dry cleaning and laundry establishments, with 38 percent shopped there only if a plan were offered. Gasoline stations were shopped by 31 percent, food stores by 13 percent, hardware stores by 13 percent, drug stores by 4 percent, and variety stores 4 percent.

Then we asked about shopping habits from the point of view of whether the housewife would shop away from her own neighborhood in order to get stamps and premium credits. We found that well over half of those saving stamps and premium credits shop at stores in their immediate neighborhood. The variation among types of stores was

slight, though food stores in the immediate neighborhood were shopped slightly less than the other types of stores.

At this point we asked a question that might throw light as to how many people switch patronage from a store not giving stamps or premium credits to one that does give them. To be specific, this is what we asked:

"Have you ever stopped trading at one type of store or merchant to take advantage of a premium or credit plan at another store or merchant of the same type?"

24 percent of those who save stamps, etc., said they have switched patronage, while 76 percent said they have not switched. And, interestingly enough, when these replies were further analyzed by age and income of the housewives there were no significant variations.

So that's how the housewives who save premium credit plans do their shopping.

Now let's take a look at their redemption habits and see what the housewife gets when she saves these credits.

First, we asked how long has it been since premium credits were last redeemed. We find that nearly half of housewives redeemed credits within the past six months. To be exact, 45 percent redeemed within this 6-month period, 5 percent within 7 to 11 months, 12 percent within 1 year, 9 percent over 1 year, and 29 percent were indefinite or did not know. This high percentage of "don't know" includes those who have not yet saved sufficient credits to make a redemption.

We also asked how long it will take to accumulate enough credits for the next gift or premium. Over half of housewives estimate they will have sufficient credits to make a redemption during the next 6 months, 41 percent said less than 6 months, 12 percent said 6 months, 4 percent said 7 to 11 months, 6 percent said 1 year, 3 percent said over 1 year, and 34 percent were indefinite or don't know.

This is the only question in the entire survey which asked the respondent to give an estimate of future plans—or in other words—what she thinks she might do. And even in this case, she can count stamps, etc. on hand and measure them against the needed amount listed in the catalog.

We next explored the matter of a housewife deciding ahead of time on what premium or gift she wants. This might give an indication of the compulsion she was under to work toward a goal and to fill a stamp book, etc. as fast as she could.

We found that only 19 percent had a specific gift or premium in mind when they started saving premium credits, 80 percent had no gift in mind, while 1 percent did not report.

Here are the types of gifts or premiums expected by the 19 percent: 33 percent electric appliances, 18 percent kitchen supplies (can opener, salad set, shears, dishes), 12 percent aluminum lawn chairs, folding chairs and tables, 7 percent toys, wading pool, 5 percent furniture, mirror, hassock, etc., 5 percent Christmas gifts, 4 percent sheets, pillow cases, 4 percent other linen, bed spreads, curtains, etc., 4 percent other picnic supplies, 4 percent steam iron, 4 percent blanket, 4 percent picnic cooler, jug, 4 percent luggage, 3 percent sports equipment, golf balls, etc., 3 percent tools, electric equipment, 2 percent sleeping equipment, metal cot, chaise, 1 percent rugs, carpets, 1 percent cash, 1 percent turn in for groceries, discounts, 1 percent camera, photo equipment, 1 percent books, encyclopedia, 20 percent all other, 2 percent don't know, haven't decided, 4 percent not reported, for a total of 144 percent.

WILLIAM GILLEN

We next asked whether they were satisfied with the last premium or gift received. 75 percent were satisfied, 23 percent gave no answer (most of these had not yet redeemed credits), and 2 percent said they were not satisfied. When we analyzed this 2 percent, we found the reasons given were mainly related to the quality of the merchandise selected.

Typical reasons mentioned were: "article poorly built and useless;" "was satisfied, but toaster price changed several dollars while I was saving;" "The china set was a second and can't be completed with more stamps;" "Tried to get it three weeks earlier, they were out of stock . . . I wrote to (stamp company) and they filled the order;" and "I don't think it is very much compensation for about two years or more of trading at that particular store."

While I've read all these, the fact should not be overlooked that they represent a very very small fraction of the whole panel.

And finally, we inquired as to the method used for redeeming the premium credits. Here's what they said: 4 percent redeem credits by mail, 86 percent redeem credits at a store, 2 percent redeem credits by other methods (these covered some who redeemed at the store where they received stamps as well as at regular redemption store), and 11 percent did not report (among these were some who had never yet accumulated enough stamps to make a redemption). The total exceeds 100 percent because of multiple mentions.

Then to the question of whether any cash was added to the premium credits when redeeming them for a gift, this was found:

12 percent gave cash in addition to credits, 67 percent gave credits only, and 23 percent did not report—also includes non-redeemers. This total also exceeds 100 percent because of multiple mentions.

And thus you have seen the report on how a representative group of New York State consumers react to trading stamps and other premium credit plans.

It is not my aim to make any predictions on the final outcome or the fight for the consumer's patronage through the use of these incentives. Unfortunately, none of the three different size crystal balls we use regularly in the advertising agency business fit the trading stamp situation.

However, I can quote from the July 30 issue of the *American Druggist* magazine which pointed out that in New York State in 1953, 24.4 percent of the drug stores gave stamps while in 1956 22.4 percent gave them, a drop of 2 percent. This is the reverse trend of drug stores nationally where 12.8 percent of all drug stores in the country gave stamps in 1953 and 17.2 percent gave them in 1956.

In the food field, the situation is obviously different. The July *Progressive Grocer* says that in January, 1955, some 19 percent of the country's supermarkets offered stamps. A year later in January, 1956, this grew to 33 percent. Today, an estimated 40 percent of the markets have adopted stamps either voluntarily or to meet competition.

The Super Market Institute's recent report, "The Industry Speaks," says their member stores who gave

stamps had 17 percent gain in sales last year compared to an 11 percent gain by those members who are not stamp users.

At Dick's Food Markets way down in Victoria, Texas, after 37 weeks of issuing Black Gold Stamps, they discontinued giving them. In reply to a phone question, Mr. Dick said, "In the five weeks since they stopped giving stamps he has felt no difference." He added, "That goes for all trading stamps. They make no difference in business volume. I threw them out."

What is the answer? Well, here's another store operator's idea! "We've figured out something different. We're going to sell the trading stamps and give the food away."

The material presented to you here will be printed in booklet form and should be ready in October. If you'd like me to send you a copy, just write to me at BBDO.

## The Food Store Spectacular

**By Marie Kiefer,**
**Secretary-Manager,**
**National Association**
**of Retail Grocers**

I would like to tell you about what we believe will be the greatest and most effective promotion in food distribution history.

*Saturday Evening Post* and the National Association of Retail Grocers have teamed up together in the first country-wide, first industry-wide merchandising program which cannot help but increase sales and profits for manufacturers, brokers, wholesalers and retailers.

Right here I want to express deep and sincere appreciation to the *Saturday Evening Post* for their important part in the program. It has been two years in planning, but, believe me, the *Post* has provided the food industry with an opportunity that will "pay off" for everyone.

The only descriptive terms which might fit the feature were such as —fabulous—fantastic—or "Spectacular"—so the decision was made to call it "Food Store Spectacular." There are two themes, however, and the one for food manufacturers is "Miracle Meals"—whereas the theme for nonfoods will be "Miracle Marketing."

Retailers, as you know, are hungry for ideas for display, merchandising and promotion. They tie in with products like the Roundup and Spring Garden Sale, they tie in with industry activities like National Baby Week and National Cheese Month, and now here is one that all can rally behind to sell more food and grocery products to more people, and one in which the entire industry can participate and benefit from.

First, we made an announcement to canners, manufacturers, processors, etc., and their agencies so their participation could be included in their 1957 budgets. This participation is a "package" including the following:

1. Advertising in the special "Spectacular" section of *Saturday Evening Post*, September 14, 1957, issue.

2. Advertising in the August 1957 issue of *NARGUS Bulletin* which will be the special "Spectacular" number.

3. Participation in the point-of-sale material in at least 100,000 stores.

In addition, there are many plus values to participants. These include, among others, the following:

1. Mention in NARGUS advertising in the *Post*—the feature copy which will open the special section —and this copy will be aimed to build prestige for the entire industry!

2. Frequent announcements to the trade on all participating canners, manufacturers, processors, and other suppliers, and their products to be featured in the *Post* and in the point-of-sale material.

3. Mention of products and participants in meetings all over the country. These will include meetings of retailers' regular local get-togethers and state conventions, meetings of wholesalers, brokers, voluntary groups, cooperatives, and so on.

MARIE KIEFER

4. Tie-in editorial material in more than 40 local and state association-owned magazines.

5. Advertising the *Post* and NARGUS in many trade publications, such as that already used by *Saturday Evening Post* in *Food Business* and *Food Field Reporter*.

6. Advertising in *NARGUS Bulletin* to alert retailers and maintain enthusiasm, support and participation.

7. Newspaper supplements offered to all leading newspapers throughout the country for local tie-ins and for industry information—again a prestige builder.

8. Mat services—featuring tie-in mats on "Miracle Meals" and "Miracle Marketing" for retailers to use in their own advertising copy.

9. Contests among associations—retailers—and suppliers—tied in with participation in the "Spectacular."

10. Special NARGUS convention tie-in with the "Spectacular" will include features in the business program, the exhibit, and the entertainment program. I am told there may be beauty contests to select "Miss Spectacular of 1957" from among the young ladies who will be in charge of exhibits at Navy Pier in Chicago.

There are many more phases to the program than it is possible to mention in these few moments, but I believe the above gives you an idea of the size and scope of the feature.

Now for the retailer participation. First, we begin with the NARGUS membership of nearly 70,000 owners who operate over 100,000 establishments doing approximately $20 billion in volume. They are bound together in 418 local and state associations in 39 states.

These retailers, many of whom have already pledged complete store-wide participation, will get information and materials from their associations, wholesalers, voluntary groups, cooperatives, wagon jobbers, brokers, manufacturers, canners, and just about everybody in the industry.

Retailers are most anxious to participate. Especially are they pleased with the following:

1. The advance announcements and planning which give them an opportunity to work it into their promotion schedules, always set up from 60 to 90 days ahead of time.

2. The program has a complete cycle—namely, products, advertising, display, promotion, point-of-sale material, merchandising and complete industry-wide interest.

3. They realize that with every branch of the industry participating, their wholesale suppliers, as well as their stores, will have ample of the

products featured in the nationwide, industry-wide program so no customer need be disappointed, and no one in the food promotion, processing and distribution industry will be slighted.

To give you an idea of the already expressed interest in the program, Gerritt Vander Hooning of Van's Food Department Store in Holland, Mich. says: "It is a terrific program because it has so many of the phases often missing in manufacturers' programs, since advertising and merchandising, point-of-sale material, supplier interest and publicity interest are involved."

Richard Long of Food Centers in Quincy, Ill., says: "We plan to go all out on the 'Spectacular', not only making it a store-wide feature but city-wide as well." And right here you would probably like to know that Food Centers in Quincy represents the lion's share of the total food business in the county in which their stores are located.

And W. H. Crawford of El Monte, Calif., operator of the largest country store in the world says: "This complete industry-wide promotion is more than 'Spectacular.' We are in it with both feet, it will not only be a feature in our large store but in our small stores as well, and with the tremendous interest and support of all the industry, the various associations, and the *Saturday Evening Post*, it just can't help but be a sure-fire winner."

Herbert T. Webb of Red & White Corporation wrote: "Rest assured that Red & White will back the 'Spectacular' to the limit. NARGUS and the *Post* are to be congratulated on this worth-while effort."

Henry Kind of Cooperative Food Distributors of America said, at a meeting of Independent Food Distributors Council: "You can count on CFDofA's support all the way down the line. This is a promotion to add, in very great measure, to the continued growth of the individual food retailer—and again I assure you of our complete support and follow-through."

The Mid-Valley (Calif.) association, which normally holds a food show in April, has postponed the 1957 event to September to tie it in with the Spectacular.

These are just a few of the examples of interest evidenced throughout the country, and now we bespeak the interest and cooperation of each of you here, all members of your Association not present, and of the Association itself.

And last, let me tell you that this is not a "one time shot." It is the beginning of a long-term program—a feature to be staged year after year—for increased sales and profits for all!

Before you leave here I hope you will accept the invitation extended by our President, W. H. Crawford, and send the acceptance forms along to him.

I would like to have Carl Caldas of *Saturday Evening Post* show you some slides to spell out further the value and the extent of the program.

(At this point, Carl Caldas of *Saturday Evening Post* showed slides illustrating the value and extent of the program.)

## Officers Elected by Other Associations

Officers of other trade associations elected at their annual meetings during the Convention period are:

### Canning Machinery and Supplies Association

President—C. K. Wilson, Food Machinery & Chemical Corp., San Jose, Calif.; vice president—John C. Swift, White Cap Company, a subsidiary of Continental Can Co., Inc., Chicago; secretary-treasurer—W. D. Lewis, Washington, D. C. (all continued in office).

### The Forty Niners

President—David S. Nay, Wm. J. Stange Co., Chicago; vice president—Frank S. Langsenkamp, F. H. Langsenkamp Company, Indianapolis; secretary-treasurer—Edward E. Judge, *The Canning Trade*, Baltimore, Md. (all continued in office).

### National Food Brokers Association

National chairman—George E. Dillworth, Kierce & Dillworth, Inc., Detroit; first vice chairman—Sloan McCrea, Earl V. Wilson Company, Miami; second vice chairman—Arthur G. Curren, Jr., Arthur G. Curren Co., Boston; third vice chairman—R. W. Madden, R. W. Madden Company, Atlanta; member-at-large—H. G. Alexander, Jr., Alexander-Spaulding Company, Houston; treasurer—H. Wayne Clarke, Walter Leaman Co., Washington, D. C.; president—Watson Rogers, Washington, D. C. (reelected).

### National Preservers Association

President—Paul Smucker, The J. M. Smucker Company, Orrville, Ohio; vice presidents—Joseph A. Raphael, Louis Sherry Preserves, Inc., Long Island City, N. Y., and J. S. Phillips, Puritan Preserve Company, San Francisco, Calif.; treasurer—John C. Fosgate, Chester C. Fosgate Co., Orlando, Fla.; executive vice president—Richard F. Curry, Washington, D. C. (all re-elected).

### Old Guard Society

President—H. J. Barnes, Kaysville Canning Corp., Kaysville, Utah; first vice president—Sidney B. Cutright, Illinois Canning Co., Hoopeston, Ill.; second vice president—Nicholas J. Janson, Nicholas J. Janson Co., Cincinnati, Ohio; secretary-treasurer—John Dingee, Can Manufacturers Institute, New York City.

### Young Guard Society

President—C. J. Tempas, Green Giant Company, Beaver Dam, Wis.; first vice president—George H. Horsley, The Horsley Co., Ogden, Utah; second vice president—Tyrus R. Young, Chas. G. Summers, Jr., Inc., New Freedom, Pa.; secretary-treasurer—Herb Shek, H. S. Crocker Co., Inc., Baltimore, Md. (reelected); recording secretary—Arthur Judge, *The Canning Trade*, Baltimore, Md. (reelected).

### Association of Canners State and Regional Secretaries

President—Warren R. Spangle, Indiana Canners Association, Shelbyville, Ind.; vice president—Jack R. Grey, Pennsylvania Canners Association, York, Pa.; secretary-treasurer—Robert J. Marsh, Canners League of California, San Francisco, Calif.

# FOOD EDITORS CONFERENCE

PRESIDING: KATHERINE R. SMITH, Director, Consumer Service Division, N.C.A.

50TH ANNIVERSARY GREETINGS: CARLOS CAMPBELL, Executive Secretary, N.C.A.

ADDRESS: "Changing Concepts in Nutrition"—Dr. CONRAD A. ELVEHJEM, University of Wisconsin, Madison

ADDRESS: "What's New in Horticulture"—MORTON ADAMS, Alton Canning Co., Inc., Alton, N. Y.; Chairman, Raw Products Technical Advisory Committee, N.C.A.

ADDRESS: "News in Product Development"—E. A. MEYER, Richmond-Chase Co., New York City; Chairman, Consumer Service Committee, N.C.A.

ADDRESS: "The Canner's Interest in Serving the Consumer"—R. C. COSGROVE, Green Giant Co., LeSueur, Minn.; Consumer and Trade Relations Committee, N.C.A.

ADDRESS: "How Canned Foods Are Promoted"—NELSON H. BUDD, Assistant Secretary and Director of Information, N.C.A.

ADDRESS: "Consumer Attitudes toward Canned Fish and Sea Food"—W. R. SIMMONS, W. R. Simmons and Associates Research, Inc., New York City

MOTION PICTURE: "The Three Squares," co-sponsored by USDA and N.C.A.

PRESENTATION: A. EDWARD BROWN, Michigan Fruit Canners, Inc., Benton Harbor, Mich.; 1957 President of N.C.A.

## Fiftieth Anniversary Greetings

**By Carlos Campbell,**
**Executive Secretary,**
**National Canners Association**

It is my honor to welcome you here today to help us celebrate the Golden Anniversary of the National Canners Association. Our second 50 years began with January of this year. Janus is known best for his ability to look both backward and forward. Thus, when starting out on our second half-century it is appropriate that we do a little looking in both directions. Since "Looking Ahead" is the theme of this Convention, I want to spend most of the few minutes allotted to me looking in that direction. It necessarily follows, however, that one must draw on the experience of the past when attempting to predict the future. Fifty years is a long time. In fact, I can neither see that far behind me nor can I visualize what the year 2007 will bring. Thus I prefer to narrow my range to that period of the past with which I have had most of my contacts with the canning industry, and to a period of equal length extended into the future.

KATHERINE R. SMITH

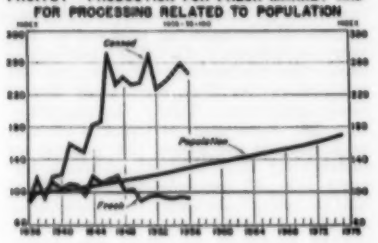
We have, during the past two decades, witnessed very significant changes in our nation's economy, and the canning industry has kept pace with those changes. In fact, in some respects it has met the challenge of change in as spectacular a manner as have other better known segments of our economy.

Food is America's largest industry. More money is spent in the production, processing and distribution of food than on any other human need. It is more than double that of the second largest—the automobile industry. Of the $70 billion spent for food, roughly $40 billion is spent on preparation, distribution, etc. Thus well over half of the nation's food bill is for service. Furthermore, that percentage has increased in proportion to the increase in consumer expendable income. It does not take any great amount of wisdom to predict that this trend toward a larger percentage of the consumer's food dollar being spent for service will continue. It is equally as sound to conclude that the value of that service must keep pace with such increased expenditures.

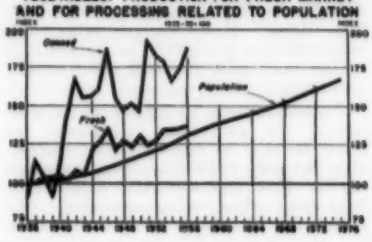
I should like to be more specific in this analysis by using one or two illustrations. All of you are familiar with the fact that fruits and vegetables are used far more extensively in the diet today than they were 20 years ago. That is in part a reflection of the trend toward greater mechanization of jobs with correspondingly less physical energy required for most work. It is also a result of a broader dissemination of information on nutrition as sponsored by the government and educational institutions. While most people are aware of this increase in the per capita consumption of fruits and vegetables, few realize that most of the increase has been in the processed form.

That fact is graphically illustrated by the accompanying charts. Everyone knows that the population increase has been phenomenal and it is predicted that the trend will continue, resulting in a population by 1975 of 200 million people. The production of fruits for the fresh market kept pace with the population increase up to 1947. For the past ten years, however, there has been a very definite and significant decrease in the consumer's use of fresh fruits. Production and consumption of canned fruits, however, has increased at a

FRUITS: PRODUCTION FOR FRESH MARKET AND FOR PROCESSING RELATED TO POPULATION




VEGETABLES: PRODUCTION FOR FRESH MARKET AND FOR PROCESSING RELATED TO POPULATION




rate greatly in excess of population increase.

The vegetable story is substantially the same but the advantage to the canned is not quite so pronounced. Consumption of fresh vegetables has more than kept pace with the increase in population but has fallen considerably behind the increase in the use of canned vegetables.

Will the next 20 years show the same pattern of consumption as that of the past two decades? The answer lies in large part in the diagnosis of the reasons for the consumption pattern from 1936 to 1956. This was a period of increasing food prices, resulting principally from the greatest increase in labor costs for any like period in history. Canned food prices have also reflected higher labor costs but the canning industry has been able to increase the productivity of labor relatively more than a number of other industries, and thus hold labor costs down to some extent. Furthermore, the greater economies in processing and distribution of food through canning have been an important factor and its effect is particularly pronounced during periods of increased labor costs. Only the edible portions of fruits and vegetables go to market when they are canned. Thus, there is no labor cost in handling, transporting, retailing of the waste portions. To illustrate, roughly 50 percent of the weight of fruits consists of skins, seeds, cores, etc. and is thus left behind when fruits are canned. This is true also of tomatoes. In many other vegetables the percentage is even greater. In the case of corn, the husk, cobs and other waste amounts to about 75 percent. Thus the economic waste in handling of the inedible portions of these crops is avoided when they are canned. Furthermore the economy of the canned product is further revealed by the fact that the preparation, cleaning, cooking, etc. is handled at the factory instead of the kitchen.

These production economies have consistently been reflected in retail prices with the result that the advance in consumer prices of canned fruits and vegetables has been considerably less than has been the increase the consumer has had to pay for the fresh product. Retail prices of canned fruits and vegetables during 1956 were only a little over 1½ times as high as they were 20 years ago, whereas the level of retail prices of fresh fruits and vegetables was 2½ times the 1936 price.

We accept the thesis that the housewife is a smart buyer and that she knows how to stretch her food dollar so that she will have a maximum left over from the take-home pay to buy some of those other things which women like to have. And I think you will agree that it is fair to assume that they are seldom fooled for long in their evaluation of the quality of product for which they are spending their money. Certainly one has reason to conclude that a 20-year record registering a constant upward trend in a per capita purchase and use of canned fruits and vegetables reflects sound values.

The economies in production and distribution of canned foods are basic and will continue. Furthermore, we assume that the housewife will become an even smarter food buyer as more and more avail themselves of the opportunity to read your columns. The pattern of food purchases during the next 20 years will tend to reflect the trend of the past two decades and by 1975 this country will have become a nation of processed food consumers.

## Changing Concepts in Nutrition

**By C. A. Elvehjem, Head, Department of Biochemistry, University of Wisconsin**

The science of nutrition has been very productive and I imagine the reason it has been so successful is that it is a relatively new science and has been dynamic in nature. As a science grows older there is a greater tendency for rigidity in our thinking and approach. However, if we are to secure the greatest benefits from the science of nutrition and the application of its findings, we must be ready to accept the changing conditions under which we live.

Numerous attempts have been made to explain what we mean by nutrition and to outline the problems which need our attention. For our purpose today, we might go back to a statement made by C. G. King of The Nutrition Foundation just ten years ago:

"In brief we want to find what quantity of each of the forty or more essential nutrients is required for good nutrition, how each nutrient functions inside the body, how each can be used to protect human and animal health, and how each can be measured accurately, either as it functions in the body or as it comes into being on a farm and later takes its course through a modern factory."

We have all been fascinated by the rapid strides made in the discovery, identification, isolation, and synthesis of many of the forty essential nutrients mentioned. It has taken a little greater effort and somewhat longer time to determine the quantitative requirements of each of these nutrients in the animal body, especially in the human being and also to determine accurately the distribution of these nutrients in all of our foodstuffs. In fact, some of us have spent considerable time and effort in urging work in these areas. Some of us had hoped that nutrition would be greatly simplified if we could list on one side of the ledger the requirements and on the other side the amount of each nutrient supplied by different foods. Furthermore, we have experienced considerable satisfaction in the fact that many of the nutrients have become available in pure form at relatively low cost so that deficient diets can be supplemented with relative ease.

Again about ten years ago, Professor E. B. Hart emphasized certain caution in the field of nutrition in the following words, "Perhaps there will be no greater stumbling block to the successful use of the chemist's tables than the acceptability of a food by the consumer. He must like the combinations no matter how rich the material may be in specific and necessary nutrients." Since this was written during the war period when we were encountering some shortage of food, he went on to say, "Surely in civilian life and where free choice of foods will again prevail, the distasteful can be replaced by the tasteful and yet provide amply the essential nutrients."

In more recent years we have given greater consideration to food and have come to use the term "food and nutrition." We have the Food and Nutrition Board of the National Research Council and we have the Council on Foods and Nutrition of the American Medical Association. This term indicates that we must recognize two

Dr. CONRAD A. ELVEHJEM

important sections of nutrition, first the production and handling of food and second, the utilization of this food in natural or modified form for optimum health. We have seen tremendous advances in the production of better food through improved plants and animals, through better fertilization of plants and better feeding of animals, through improved methods of handling and harvesting our food products, through improved methods of processing, and finally, improved methods of merchandising. We have today in this country a 60 to 70 billion dollar food industry. We have won the battle between population increase and food supply in this country, although unfortunately this is not true in the rest of the world.

Are we capable of using these foods and our basic knowledge of nutrition to the best advantage in maintaining optimum health for all people in all age groups and under all conditions of stress? I still believe that most of our effort can be divided into two categories; namely, studies on the requirements for different nutrients and second, the determination of these nutrients in our food supply. I realize that different outlines may be used, for example, the Nutritional Research Advisory Committee of the Department of Agriculture recently called for work in the following areas: better ways of measuring the availability to the body of the nutrients in foods; studies on how one essential element in a food may affect other elements; uniform ways of evaluating palatibility of foods; and studies on food wastes. Each of these questions can readily be studied under the two larger questions which I raised. I suppose we never can answer the nutritional requirements for each human being in any particular period of his life time. However, certain basic concepts can certainly be established which may help us to a considerable extent.

In our efforts to establish requirements for individual nutrients we have tended to neglect the relationship between nutrients or as indicated earlier how one essential element in food may affect other elements. We know, for example, we cannot establish the vitamin D requirement of the human being without taking into consideration the calcium and phosphorus relationships in the diet. We cannot establish the vitamin B-6 requirement without taking into consideration the level of protein or more specifically the level of certain amino acids in the diet. Even more important are such broad relationships as the effect of the type of carbohydrate on the protein requirement of an animal. Briefly in our own laboratory, we find that a level of protein at 9 percent fed with starch gives as good response in animals as 13 percent of protein, when fed with sucrose. More recently we have found that the level of fat in the diet, perhaps the kind of fat, may significantly affect the protein requirement. It is also becoming apparent that the requirement of individual amino acids is affected by the level of other amino acids supplied in the diet.

These results are not discouraging because it is more and more evident that when the requirements are met through a reasonable combination of natural foods these abnormal relationships do not exist. However, such information is very important to accumulate since with our improved technology we may modify foods or fortify foods in a manner in which abnormal relationships may develop. It would be unfortunate in light of modern developments in nutrition if certain serious imbalances would develop because of our enthusiasm to use the latest developments in technology. Certainly we should use these new developments, but we should obtain complete knowledge before we apply them on a large scale. I mentioned a few interrelationships of significance in nutrition. It is important to emphasize that in studying these relationships we need to use the food as consumed in practice. Thus if we are to measure the effect of starch on protein utilization we need to relate the type of starch to that present in prepared foods. If we are to study the effect of the kind of fat in protein metabolism or in sterol metabolism, we must relate the specific fat used to the fat which is available to the consumer.

The area of food assays comes much closer to the group present here today. You all remember that the canning industry was subject not so many years ago to certain criticisms because of the possible deleterious effects of the canning process on certain nutrients. In this particular case, the technology of canning developed earlier than our knowledge of basic nutrition. Today the questions can be answered without difficulty and, as you all know, the process of preserving food through canning has very few, if any, deleterious effects and in many cases may have beneficial effects. Furthermore, the canning industry together with the can manufacturers early recognized the need for a thorough survey of the levels of the different nutrients in various canned products. The meat industry and the canning industry pioneered in these efforts. Today many other industries are making similar careful surveys; for example, the frozen food industry and the baking industry. It is not surprising that an industry might want to boast a little about the supply of certain nutrients in some of their food products. This is merely human nature, but let me emphasize that everyone concerned will benefit to a much greater extent by using these figures in the larger basic concept of nutrition.

No food today is a cure-all but it is used to fit into our general pattern of foods which make up our American diet. It would be utterly useless to emphasize that a product in the canned form would supply 10 percent less of a nutrient than the same product before canning. Similarly it would be nonsense to emphasize that the availability of a certain nutrient was 10 percent greater after the product had been canned than before the canning process. I say this is utterly foolish because in many cases the particular product in question may supply considerably less than 10 percent of the total requirement of that nutrient. Therefore a difference of 10 percent one way or the other would involve 1 percent of the total daily requirement. I would immediately emphasize that the requirement for no nutrient has been so accurately determined that a differentiation of 1 percent would make one bit of difference. However, we need to know all this information to give us a total picture; for in certain cases when a given food is used as a large part of the total daily intake, small changes might be very significant. We need only mention such experiences as the loss of vitamin B-6 or of vitamin B-12 in certain processing procedures.

Thus we need to continue our analytical procedures to make our tables more complete and to be ever watchful for possible changes taking place not only in our processing procedure, but in the original foods used in processing. We need only mention the possible presence of deleterious substances in foods due to the use of in-

secticides and fungicides and the very excellent work which is being done by the Committee on Food Protection to introduce again reasonable common sense in interpretatian of the results obtained.

In addition to the basic facts which I have alluded to, we of course need to do much in the area of education. However, again we must decide how much we need to do by education and how much we want to do by improving our basic foods. The entire program of food fortification or enrichment is based on the premise that it is simpler to improve certain foods than to spend an excessive amount of effort in an educational program.

In this connection it is important to emphasize some of the basic concepts involved in food fortification; namely, that the requirements for endorsement of the addition of a particular nutrient to a particular food include (a) clear indications of probable advantages from increased intake of the nutrient, (b) assurance that the food item concerned would be an effective vehicle of distribution for the nutrient to be added, and (c) evidence that such addition would not be prejudicial to the achievement of a diet good in other respects.

However, I believe the important issue today is the development of food products which are tasteful and which are available in attractive and easily utilized forms. This is where our food technology, including canning, freezing, and other types of processing, can be most useful in nutrition. It is amply evident that nutrition in this country has been improved through the availability of such products. The problem then becomes one of emphasizing the value of these products in the typical American diet without going overboard and suggesting that some of these foods may be 'wonder' foods. We have so much false food advertising and food faddism that the reliable food industries need to give special care to the methods which they use in acquainting the public with their products. This holds whether we are educating the public regarding food products or individual nutrients which may be added to foods. We will encounter greater emphasis on the use of individual nutrients as they become available at a lower price. We are now encountering some of these problems in the case of amino acids, but I am sure that our industries will make proper use of these technological improvements and fit their products into the larger pattern of optimum health for all. I realize that millions of dollars are at stake in many industries, and especially with the development of new processes, but I know of no case where these investments have been endangered by proper use of scientific nutritional data. Thus we may have changing conditions in nutrition, but the basic concepts do not change.

## What's New in Horticulture

**By Morton Adams,**
**Chairman, Raw Products**
**Technical Advisory Committee,**
**National Canners Association**

MORTON ADAMS

Did you ever go to a state fair? Did you ever walk down the midway. (Reason? The shortest way to get from the home economics building to the grandstand to see Adois Harry try for another 1:55 pacing mile.) If you did, you saw and heard the "Carney Spielers." "Ladies and Gentlemen! Step right up front. Make room in back for those who want to hear and see. On these boards you'll see the greatest show on the grounds! If you want your eyes to pop, crowd in here. This is the last 'bally' before the show goes on in the tent where a full house waits for the full hour show."

As I prepared this talk I was reminded of those "spielers" doing their "bally." They were trying to interest their prospective customers by giving them enough of a picture so that those people would want to "see" and "hear" more. That's what I am trying to do here. Trying to give you in ten minutes enough to whet your desire to see more. I have got to do it before the gong rings and the fellow on the next platform gets his chance.

We have much more to show you than they have and we are happy, anxious, and proud to mention the hundreds of new developments in the horticultural field: vegetables, fruits and related fields such as genetics, plant physiology, soil chemistry and engineering. I hope to give you a quick view of a portion of what we have to offer. Those items that interest you can be elaborated upon by the N.C.A. Raw Products Research Bureau (Dr. Mahoney or Dr. Crosby). Furthermore, they can tell you exactly where the work was done, who did it, and where it is being used; or if you usually contact Katherine Smith she can get the information from Dr. Mahoney for you.

Just to illustrate to you why we have so many new developments each year, I think you will be as surprised, as was I, to learn in preparation for this address, that in addition to the many research workers of individual canners, there are over 7600 USDA research workers, and over 7800 in the land grant experiment stations and colleges. They aren't all working on horticulture but authoritative sources estimate that about one-sixth of the state and federal research resources are devoted to horticultural research and development. Of course Dr. Mahoney and Dr. Crosby of our N.C.A. Raw Products Research Bureau probably have appreciated this situation more than have you or I. The job of their department is to work with these various federal, state, and private research staffs in a counseling manner. Often this department has been praised by the technical research scientist because of the ability of these N.C.A. men to bring to the scientists the food industry's knowledge, agronomic evaluation, and encouragement.

First let us consider vegetable and fruit varieties. Probably many women, both urban and country, think that the varieties of apples, cherries, beans, tomatoes, peas, and corn that they grow in their garden, saw grown as a child, or buy fresh in the market, are the same as the varieties grown to pack in a can to sell on the grocer's shelves. In most cases this is not true. For example, the tomatoes bought in a store are usually ones that would not be good enough for a can of tomato juice or a can of whole tomatoes. The tomato breeders and geneticists have developed a tomato for processing that is usually higher in Vitamin C than those fresh purchased tomatoes. The processed tomato has higher total solids and has had incorporated into it the uniform red color genes. Then, of course, the improved sugar-acid ratio has been included. Now we are beginning to get strains in some areas of the country that are crack resistant and disease resistant. You say, why can't our women get those same tomatoes with all those healthful properties in the fresh state? The main reason is that those large, red, tender, juicy processed varieties do not ship well, they pass their peak of optimum food value quickly, they need special growing conditions of soil, climate, and

water, which usually are not present near the centers of population.

One other illustration of what's new in vegetable varieties is best shown in the carrot field. For years breeders have unsuccessfully tried to get a carrot that was high in carotene, had a uniform lemon yellow color (not two shades of yellow and two shades of greenish yellow), and high sugar, no bitterness. The old method of selection was from mass-pollination. Now, from the USDA has come "male sterility." This allows plant breeders to control the genetic make-up of the cytoplasm of the carrot by cross-pollination and back-crossing. Even without a technical explanation of cytoplasmic male sterility and cross-pollination, I think you can see how, by using this technique of controlled pollination, we can now get these highly desirable food traits bred into our processed carrot varieties.

We could talk about the like developments in white seeded, double yielding, small diameter snap beans, or about RSP cherries with high drained weight, or about 20 bushels of a Baldwin replacement apple, like Monroe, grown on a tree that will not grow any taller than a step ladder whereas the old Baldwin tree had to have a 22-foot ladder to get the same 20 bushels of apples. However, we don't want to skip the chemical field when we illustrate "What's New in Horticulture" with new developments. First I want to tell you that it is now possible to grow apples more cheaply and to process them more cheaply because of a chemical development made originally by commercial research chemists, perfected by a USDA pomologist, and adapted by a land grant college extension specialist. This chemical is called naphthalene acetic acid. It's a chemical form of a plant hormone.

I said that this chemical made possible the growing of apples more cheaply. Here's how. Many apple varieties tend to bear fruit every other year, but they have to be sprayed every year. By spraying naphthalene acetic acid in minute amounts (500 parts per million) on a tree at bloom time, the apple set (the number of apples per tree) is cut down to the point where the tree can mature the crop and store up enough food for a crop the next year. So a farmer gets two crops in two years instead of one. This spray also makes the tree produce apples that are double or triple the size they would normally be. This raises the number of cases per hour of sauce or sliced apples produced in a canning factory by 30 to 50 percent with the same people and same machines so the production cost is reduced and the housewife gets cheaper food. Parenthetically, I should also mention that this same chemical, in a slightly rearranged composition, sprayed on the apples just before harvest time tightens the apple stems to the tree branch so the waste from "dropped" fruit prior to harvest is held to a very low figure.

Of course, you read the other parts of your papers and magazines so you have heard about the wonder insecticides and fungicides just as you have heard of the wonder drugs. Probably the terms chlorinated hydro-carbons, phosphate insecticides, or carbamate fungicides are not as meaningful to you as are the terms aureomycin, Salk vaccine, etc. But they came about the same time and they do specific "rifle shot" jobs instead of the old "shot gun" method of controlling many dreaded insects and diseases. Probably you didn't know that some insects have been able to develop strains or families that were resistant to these chemicals. Then researchers had to develop other sprays to "follow in" to get these immune families. Of course, all the time farmers and the food processors insisted that these chemicals be first tried and be fully warranted not to be in violation of the Food and Drug Act as regards safety of food for humans.

One other illustration to show how the science of chemistry has been used in horticulture to reduce costs and improve quality. We all know what weeds and grasses do to yield, quality, and costs of vegetables, and fruits. We now have a series of chemicals (called selective herbicides) that can be sprayed on rows of vegetables that will kill the broad leaf weeds or the grasses and not the vegetable. We also have other chemicals (called pre-emergence) that can be sprayed on the ground after seeds are planted. These chemicals will kill all the weeds as they try to come through the ground but will not kill the vegetable sprouts.

There are many more fields of endeavor that have score upon score of new developments that I am sure you would find interesting and helpful in educating your readers about foods. I'll just complete my "ballyhoo" with a story about machines. You all remember the old *National Geographic* or geography books with the 24-horse team drawing a combine. You know what the self-propelled combine has done to your wheat and your bread. You have seen countless pictures of the value of the cotton picker. In our own food field we have another new machine, the snap bean picker. This machine is doing as much for this segment of the food industry as the above-mentioned and widely popularized machines. A picture you could be shown is one man on a tractor-mounted snap bean harvester picking as many beans as 100 to 125 migrant harvest hands used to pick. It's revolutionary and it creates a need for many more new things in horticulture. This machine creates a problem for the plant breeders. For example, we now must have a bean plant that has terminal inflorescence with pods maturing at the same time, no longer requiring picking over the field several times.

I could go on and on telling you about the "heat unit system" whereby we can predict the harvest date of crops by calculating the daily mean temperature. Or I could tell you how eastern and midwestern irrigation developments have renewed the stories of fights for water rights that first came into prominence in the old longhorn cattle raising days of the old West.

However, as I invite you to "come into our tent" to see and hear about "What's New in Horticulture," I can tell you now, without fear of contradiction from the college professors, the city editors, or the head home economists that what you have heard today is only a sample, drawn at random, of a list of developments that will strain your powers of belief. Furthermore, what's new today is replaced by something new tomorrow because those 15,000 or 20,000 or 30,000 (whatever the total) dedicated research men and practical horticulturists have "something new in horticulture" nearly every week.

## News in Product Development

**By E. A. Meyer, Chairman, Consumer Service Committee, National Canners Association**

The canning industry was a fair sized industry when most of us arrived on the scene. Through research and testing many changes have taken place—not sensational, not spectacular, but a steady wholesome growth and development. In a sense, we have grown up with the industry, and since we have seen the changes from year to year, it is only at a time like this when we look back over what has taken place in the last 15 or 20 years that we do realize what changes have taken place. The progress has been so great that in the time allotted to me I will be able to only hit the high spots.

### Containers

Glass containers are lighter in weight, more serviceable and attractive and tougher. The caps and closures are easier to remove. Metal cans are stronger, have better linings, and every year more key opening cans are used.

### Ingredients

Along with the improvement of the container is the progress made on

E. A. MEYER

the contents. Through research and experimentation, foods are now processed in a shorter period of time, sterilized in a better way, cooled more quickly, all resulting in more nutrition, better-flavor and color.

Here are some changes that have taken place in the last ten years:

Today there are 400,000 less domestic servants than ten years ago.

We now have over 12 million married women in the labor force.

The average family is larger today than it was ten years ago.

Convenience is the keynote of successful packaging of foods today. "Mama" has less time to devote to food preparation today than ever before, and she is willing to pay for conveniences that will save her time.

Canned foods are the original convenience foods. We supply the consumer with foundation foods to which the housewife can apply her "mother tricks" and produce tasty dishes with some individuality for the family. Why don't we canners add more spices and flavors to our canned foods? The reason is that individual tastes vary from area to area. What is just right for New Orleans is not acceptable in Boston.

What are some of the new products and what are some developments that have taken place in the last ten years?

Concentrated orange juice has increased from one-half million gallons in 1946 to 70 million in 1956.

Applesauce, apple juice and sliced apples from 10 million to 20 million cases in ten years.

Pie fillings practically unknown in 1946, and now a volume item.

In 1946 one of the large baby food manufacturers was making 37 varieties of baby foods. Now this same company is making 77 products for babies.

In 1946 we had 61 canned vegetables. Now we have 133.

A large soup manufacturer has increased its line of concentrated soups, added 16 ready-to-serve hot soups, and 8 varieties of frozen soups.

During the last ten years the industry has introduced a wide assortment of dietetic fruits and vegetables.

There has been a big development in distributing foods through vending machines. Hot and cold foods are now available through vending machines. Round-the-clock outside vending machines for food shoppers are new. They are now being tested at retail outlets and offer a wider variety of food items.

The almost fantastic expansion of the processed food industry can be attributed to two factors—convenience and economy. In the face of increased cost of every item that the processors are using, the cost of the finished product has been kept at a comparative low level. This has been achieved by automation. Automation, reduced to its simplest terms, means to make automatic any operation or series of operations. In the canning industry there were many operations that were done by hand labor, that are now completely mechanized.

There is an old saying, "It is hard to argue against success." The tremendous growth and increased distribution of processed foods is the best argument that we have that these foods are meeting the needs of the consumer.

You food editors have a responsibility and a challenge to keep the consumer informed of the new foods and the new uses. We canners certainly appreciate the splendid job that you are doing, and will continue to cooperate with you in every way we can so that you can do a still better job.

## The Canner's Interest in Serving the Consumer

**By R. C. Cosgrove, Consumer and Trade Relations Committee, National Canners Association**

Service is the very life blood of our existence. In the last analysis, the canner is in the middle—along with food editors, I guess—performing a few of the multitude of services necessary to get the products of the farm to the ultimate consumer.

The canner gathers the finest of the world's agricultural production—cleans, sorts, prepares, processes, packages and redistributes it to the four corners of the globe in inexpensive, convenient, nutritious and flavorful form for the consumer. Everything the canner does is a service. Giving the consumer what she wants, where she wants it and when she wants it—at a real low unit price. We hear much about high food prices, but for example, our current selling prices for both canned peas and canned corn are lower than they were 20 years ago when the United States was barely recovering from its worst depression and from a period of the lowest general prices in our history.

It is inconceivable that consumers would ever wish to return to perform even one of the drudgery tasks of harvesting, preparation and processing for themselves. And, yet, it was a comparatively short time ago that these services were actually performed right on the farm for consumption on the farm or for consumption in a very limited area surrounding the farm.

There were, of course, many factors which contributed to this changed picture. But I like to think that the very crux was advertising—advertising in the broadest sense. Advertising in the sense that it is communication between the farm and the consumer, whether done by paid, colorful layouts in our fine publications or through the circulation, strength and believability of your food columns and pages.

Certainly the transition from the limited area marketing picture to the almost infinite one of today would have been a much slower, more costly process had it not been for advertising communications. I am talking in the broad sense and, believe me, I'm sincerely including you food editors as contributing a major role. This advertising created the interest in the new and better products of the farm with increased demand permitting mass production and mass distribution with all its inherent economies.

So, let's admit that service is our business—yours and mine— let's admit that communication is the vehicle so vital in bridging the gap between distributing from farm to the consumer and is vital in bridging the gap of understanding between farm and consumer. How, then, can we help each other in doing a better job of bridging this gap?

It is only with complete, worthwhile information that you are able to render the best service to your readers. The whole of the N.C.A. staff, our public relations counsel, Dudley-

Anderson-Yutzy, and all of the canners represented are at your service. Please ask; please recommend; if we are not giving you useful, worthwhile facts and information.

We are trying to do a workmanlike job of supplying you with items, but we know that we have hardly scratched the surface. The whole point we would like to make today is that we ask you to be most critical of our efforts. If release material does not come up to the information standards you need and is not comprehensive enough and does not present the facts and ideas in a way to appeal to your readers, please shout. None of us is thin-skinned; we readily admit that you food editors have a much better feel of the pulse of the reading public—and consuming public.

In trying to be critical about our operations and to dream a bit about the future, aren't these some of the things that can be done—and should be done to better serve the consumer?

Can't we canners do a better job of descriptive labeling by really giving information that is of service? Can't we be of service by giving good worthwhile serving instructions and recipes instead of using back panels to plug our products and show pictures of our plants? Shouldn't we change the recipes often to give the consumer many ideas during the year?

Can't we canners be of greater service to consumers by taking more and more drudgery out of food preparation? Why not save the housewife an additional step or two? If green beans are usually served with bacon, why shouldn't we offer the consumer such a product? If mushrooms are often served with canned peas, why shouldn't we add mushrooms when we are canning the peas?

We canners talk glibly about convenience. And, it's true that canned foods are convenient. But couldn't they be made even more convenient? Shouldn't we put the best engineering minds in the country on a project to develop a quick way to remove the lid from a can? Modern can openers are fine and quick but they probably are not quick and convenient enough. A quick snap of the wrist opens a beer can. Why couldn't a fruit and vegetable can opener be developed along the same principle? A mere flick of the wrist and the lid is removed, exposing the contents for easy pouring. I am not an engineer but if Univac's brains can be developed by our engineers, there must be people in the country who could design "split-second" can de-toppers.

Haven't we canners gone merrily along our way ignoring kitchen design? The frozen food people have,

R. C. COSGROVE

in my opinion, done a good job. They have worked with refrigerator and freezer manufacturers so that it is easy to store frozen products in the home. Shouldn't we canners be working and spending funds on the development of kitchen equipment—kitchen racks that will conveniently dispense single cans—put the convenience of cans right at the fingertips of Mrs. Housewife? The proper kitchen equipment would take the 'extra' canned foods out of the basement and put them handily available. Such a development would be bound to increase the use of canned foods.

Shouldn't canners do enormous research on can sizes? Are we sure that the 303 can that has grown so greatly in popularity in the past few years is the proper size for the majority of families? Rather than developing our packages in a convenient size to process and ship, shouldn't a large study be done to see if the contents are proper for most people? There has been little change in can sizes since the war, yet all of us know that the average family size is increasing rapidly. The proper amount of contents should be made available for small families, average families, and large families. Also, it does not necessarily follow that a family of four wants the same number of ounces of tomatoes as they do of green beans. Research would quickly answer these questions for us.

Shouldn't we take the story of canned foods to the public? The automobile dealers take their new cars to the public in a dramatic way with automobile shows. Couldn't we, with a traveling show making market after market, show the consumers the quality of canned foods and awaken interest in consumers so that they will know the potential and the possibilities of cooking and serving meals with canned foods playing a major role?

Shouldn't we canners make use of the good cross-section panel of food editors who would sit in session and tear our releases apart—be critical and improve them so that they will do the most good for the greatest number of editors? Wouldn't this eliminate much of the wastage of material that is sent out? With more and more newspapers having color printing available, shouldn't we supply color mats of appetizing food dishes?

Shouldn't we canners give a bit more thought, too, to the inquiries from your readers? Haven't we been too prone to ask for some publicity and forget the fact that readers write and call and ask for additional information—if each time we sent along material it contained "inquiry" information which could be sent along to readers giving more detail and more information—wouldn't it be helpful to you?

Don't we canners take quite a bit for granted in our advertising? Don't we get so enthralled with running display poster ads which show our cans as big as we can possibly get them on a page, overlook the service angle? Perhaps we have forgotten that many new homemakers are coming into the market yearly and they do not necessarily know the story of canned foods and what can be done with canned products. Shouldn't we retrace our steps and go back a few years to when canned foods were more of a new item and do some explaining? Shouldn't we always put some academic, some basic information about canned foods in our advertising insertions and render greater service to young homemakers?

Shouldn't we canners bring all possible food editors to visit our canning operations, our laboratories during the packing season, so that we will have a better understanding of your problems and needs and you, in turn, will have a better understanding of what's new in our industry and what we canners are trying to do?

All in all, isn't it quite a frank answer to say that we canners have been lacking in thinking of consumer service? Shouldn't all of us institute a consumer service department staffed with capable people who will help you to better help your readers?

Thank you for putting up with my ramblings and for listening to some of my personal viewpoints.

# How Canned Foods Are Promoted

**By Nelson H. Budd,**
**Director of Information,**
**National Canners Association**

NELSON H. BUDD

If we believe the legend of the roast pig, it was ancient China that discovered cookery. The canning of foods—the process of cooking in hermetically sealed containers—was created in France nearly 150 years ago by a lowly chef who conducted his experiments in glass bottles and jars. These glass containers, by the way, were the product of a discovery by the early Phoenicians. England originated the metal canister, first crude iron, later tin-coated steel.

Thus it was the older civilizations that cradled the art of canning. One would expect, with such a head-start, that canned foods would by now have become a vast industry in Europe, with the United States struggling to catch up.

The reverse is true; probably because Yankee mechanical ingenuity devised the automatic machinery necessary to mass production in the canneries, and because of our greater aggressiveness in promotion, merchandising and selling. So now we find the Europeans asking us to tell them how we have achieved in our young country such widespread acceptance and use of a product they fostered and launched a century and a half ago.

In recent years they have held international canned foods conferences—in Paris, Copenhagen, Brussels, Rome—dealing with problems of the European canned foods industry, all sponsored by an organization known as the Comite International Permanent de la Conserve. For the first time, last September in Rome, this Congress set aside a full session on "propaganda" (their term for what we call promotion), and they asked me to present an account of How Canned Foods are Propagandized in America.

Everyone in this room knows how this is done, of course, most particularly food editors, who are daily being bombarded with canned foods "propaganda" from manufacturers, from organizations like the National Canners Association, from the respective public relations firms and advertising agencies of canning industry clients. Nevertheless, in the preparation of my report to the European canners, I made the discovery that apparently no one had ever before gathered all the several examples into a common account. Katherine Smith and George Anderson, in planning today's agenda, seemed to feel that you ladies of the press, bless you, would be interested in a recapitulation of that speech. I hope they are right.

I grouped the American efforts to promote consumer acceptance and sale of canned foods into these five categories:

(1) Those of individual canners to advertise and publicize their own products, estimated to involve an annual expenditure of $73,305,000.

(2) The Consumer and Trade Relations Program of the National Canners Association which furthers acceptance of canned foods as a class of foods, but does not promote or advertise brands or specific commodities, on which the organization expends some $325,000 per year.

(3) The similar but less comprehensive programs conducted by about a dozen of the state and regional canners associations, emphasizing local canning achievements rather than national. These programs total about $70,000 per year.

(4) National promotions of specific canned products by about 15 commodity associations, amounting to about $7,100,000 annually.

(5) Promotions, involving both advertising and publicity, financed and conducted by the container and closure manufacturers and their trade organizations, which emphasize advantages of canned foods, amounting to approximately $7,500,000 per year.

Altogether, the estimated annual total of expenditures of these five categories comes to approximately $88,300,000 or about 2.9 percent of the average annual value of the product at the canner level.

Quite a number of American industries spend as much as 10 percent of product-value to promote their goods. Our 3 percent still represents a pretty tidy sum, big enough to constitute a fair addition to the revenues of publications, when it comes to them in the form of paid advertising and an expense-saver when it takes the form of editorial assistance. At the same time the amount is not large enough to inspire the radical organizations of the country to make their favorite accusation about the poor housewife having to foot the manufacturers' advertising and publicity bills; otherwise her food would be cheaper.

The answer to this point of view is, of course, that advertising and promotion are necessary to inform the consumer on the gains to be realized through the use of the item being promoted. On this score the canning industry has performed well in informing the nation's consumers through your valued columns about the quality and convenience of canned foods. Also, at the same time canned food prices are more reasonable and stable than most.

It is therefore a pleasure to point to the rising curve in promotional activity on behalf of canned foods. Distributed at this Convention is a piece of literature (this was shown visually) measuring the record of promotion expenditures made since 1950 by state, regional, national canning associations, the commodity groups, and the container companies:

| | |
|---|---|
| 1950 | $ 3,950,000 |
| 1951 | $ 4,400,000 |
| 1952 | $ 4,963,000 |
| 1953 | $ 5,888,000 |
| 1954 | $12,675,000 |
| 1955 | $14,995,000 |
| 1956 | $16,445,000 |
| 1957 (Projected) | $17,145,000 |

With pardonable N.C.A. pride I take this opportunity to point out that the biggest jump of all occurred in 1954, this year we launched our current Consumer and Trade Relations Program, of which this Conference today is one of some hundred different projects. This action by N.C.A. has been a stimulant to all programs. Our program, in a monetary sense, is a drop-in-the-bucket to many of those whose totals make up the nearly $90,000,000 annual expenditure. Yet it has been said that the N.C.A. program constitutes an "umbrella" under which the several other promotions are now moving with strengthened and accelerating effectiveness. Each vitalizes, complements, and inspires the other, with a resultant upward surge over-all.

Each of the programs has the common denominator of extolling the contributions of canned foods to a varied and healthful diet, to a betterment of the nation's food economy, and to the high standard of living.

The scientific basis of canning and the constant quality improvement of canned foods provide a basic and

authentic source for the numerous publicity and advertising messages disseminated by all of the parties engaged in promotion work.

The 20-fold increase in canned foods production during the 50 years' existence of the National Canners Association with its many scientific and professional activities is considered to be a significant parallel. The hostility toward canned foods prevalent when the Association was formed has been overcome steadily through the years by improved products resulting from bettered technology along with authentic information to the public.

And on this final point, we of the industry owe and pay thanks to you ladies of the press.

## Consumer Attitudes toward Canned Fish and Sea Foods

**By W. R. Simmons,**
**W. R. Simmons and Associates**

Today I would like to present to you some of the major findings of a study on canned fish which our organization recently completed for the Fish and Wildlife Service of the U. S. Department of the Interior. The study covered 55 questions about canned fish with results which have been tabulated into some 500 tables. Information is available on each of the subjects covered; for instance, according to total United States, four major geographic regions, size and type of community, family income, size of family, religious affiliation of family, white or non-white population, employment status of "meal planner," and age of "meal planner."

I will not go into the techniques used, except to say that 2,500 interviews were conducted from a sample selected so as to produce the same findings as would have been obtained if every one of the 48 million households in the country had been visited.

So, my report to you is a summary of major findings in the study which I believe will be of general interest.

### Universal Acceptance

First as to who uses canned fish, in the broad definition of having served it during the past 12 months, we found that almost all households are users, the actual finding being 91.4 percent for the country as a whole. We also found that the figure is over 90 percent for each of the four major regions of the country.

The survey results also indicate that canned fish is not competitive to any considerable degree with fresh and frozen fish. On the other hand, fresh and frozen fish appear to be directly competitive with each other. In each region where the percentage of households using fresh fish goes up, the percentage using frozen fish goes down, and vice versa.

Of course this non-competition between canned fish and other fish is to be expected because the major kinds of canned fish—tuna, salmon and sardines—are not widely used in this country in a fresh or frozen state. To clarify this point we cross tabulated the users and non-users of fresh and frozen fish separately on their use of canned fish. We found a higher percentage of canned fish users among the users of fresh and frozen fish than among the non-users.

Perhaps the most important fact here is that canned fish is a product of almost universal acceptance by American households, with only a small minority finding it unacceptable at least for occasional use.

Since nearly every household is a user, the important question is how much a household uses or how frequently they use canned fish. For the country as a whole, about half the users might be called "regular" users; that is, they served it more than three times in the four weeks prior to the interview.

A relationship that appears many times in various findings of the survey is the existence of a common pattern as between the Northeast and West on the one hand and the South and North Central regions on the other. In this instance the Northeast and West have about 10 percent more of their users in the "regular" category, about half of them in the more than once a week or heavy user class.

An important point about the canned fish market is that the great bulk of canned fish users (83 percent) is concentrated among the 45 percent of American households who are regular servers. In fact, 41 percent of all servings take place in the 15 percent of households who serve it more often than once a week.

More than two-thirds of all servings take place in households that are in metropolitan areas. In fact, in terms of servings per household per week we find the metropolitan area half again as frequent in their usage as the non-metropolitan, averaging about 75 servings per 100 households weekly, against 50 per hundred households in the non-metropolitan areas. It should be noted also that the larger cities of 500,000 and over and the suburbs account together for over half of all canned fish servings in the country.

Here I want to inject a word of caution about interpreting the findings of this and most other surveys. The interviewing on this survey was done in June. We found that metropolitan households more frequently mentioned spring as the season when they used canned fish most often. We also found that a far higher percentage of non-metropolitan and rural households mentioned winter as their time of greatest canned fish usage. This would tend to indicate that the picture might have changed somewhat had the survey been done at a different time of the year. Certainly a careful study of the information about seasonal variation should be made before going overboard on any finding reported.

### Family Size and Income

The volume of servings varies with household income. Except for the very lowest income group with less than $3,000 per year, the use of canned fish is almost constant at all income levels. Bear in mind that the lowest group still accounts for almost a quarter of total usage. The highest income group, over $7,000, is the most frequent user. That canned fish is neither an economy food nor a luxury food is evidenced by the substantial usage in the $3,000-5,000 middle income groups.

We classified our respondents by family size and we found that the number of servings per week increases steadily as the number of persons in the household goes up—from 53 per hundred per week for the two-person household to 83 for the family of six or more. On this basis we also found that households of four or more persons account for over half of all servings in all families.

We cannot assume that every member of the household participates in every serving within the family. In fact, we know this is not so. It also cannot be assumed that both members of the two-person household eat canned fish every time it is served. However, it does seem reasonable to assume that the amount of product consumed by any household will be proportional to its size. We have worked out this family size analysis by the number of individuals in the family. On this basis the households of four or more persons account for two-thirds of all individual servings. In terms of servings per week, assuming all members were served, we would have a consistent increase—from two servings in the two-person family to five servings in the family of six or more. There seems to be no question but that the larger families not only use canned fish most frequently but also use more of it at every serving.

I have mentioned that all findings of the study should be interpreted in the light of the time of year when the information was obtained. We asked all respondents if there was any season of the year when they used canned fish more often than the rest of the year. The most significant fact is that over half of all households stated that there was no seasonal difference in their consump-

tion. Among those who were aware of seasonal variations, the amount of such variations may be small. This emphasizes the "year round" part that canned fish plays in the American menus. Incidentally, I had our tabulating department run our IBM cards for light users, regular users, and heavy users separately. Differences between them were too small to be considered significant.

Where seasonal differences were found, they were almost evenly divided among spring, summer and winter. Only the fall seems to be little favored. So, in the season when one group drops off in consumption, another group picks it up.

### Regional Differences

Regional differences in seasonal preference for canned fish usage are about what would be expected in the light of normal seasonal implications. Spring was more highly favored in the Northeast and Central regions with their high concentration of Catholic populations. Incidentally when the data were broken down by religious affiliation, their heavy observance of Lent showed up very strongly. Among those favoring summer the great majority were people living in the metropolitan area where the use of canned fish in salads was most popular. Summer was also especially favored in the higher income groups with their higher use of shrimp and crabmeat for salad purposes.

Conversely, a far higher percentage of non-metropolitan and rural households claimed winter as their time of greatest canned fish usage. This reflects their lesser use of canned fish as a Lenten dish or in summer salads and their greater dependence on it as a substitute for fresh foods in the season when fresh foods are less available.

Use of the three leading types of canned fish—tuna, salmon, and sardines—varies in the four geographic regions. Consistently the Northeast and West show a different pattern of taste preference from that of the Central and Southern regions. For instance:

Tuna: Northeast and West above average. Central and South below average.

Salmon: Northeast and West below average. Central and South above average.

Sardines: Northeast and West below average. Central and South above average.

Though tuna was the most widely served canned fish in all sections, its margin over salmon was much narrower in the Central and Southern regions.

Regional distribution of households serving tuna and salmon vary in terms of percent of servings and of servings per household per week. The Northeast and West serve tuna more and salmon less than the Central and Southern section of the country. The Northeast and West constitute over half of the tuna market. The Southern and Central regions make up nearly two-thirds of the salmon market.

Where the volume of servings was analyzed by type of community, we found much heavier use of tuna in the metropolitan area, while the use of salmon is slightly heavier in the non-metropolitan communities.

With respect to family income we find the use of tuna increases sharply as income goes up, while the use of salmon varies very little among income groups. Yet because there are so many more of them, the families with under $5,000 income account for nearly two-thirds of the tuna market and nearly three-fourths of the salmon market.

W. R. SIMMONS

Of particular interest to those engaged in marketing a canned fishery product will be the reason non-users of the product give for their non-use. Each respondent who was found not to have served any one of the four major types of canned fish in the previous 12 months was asked why she had not served the product.

The major reason given was that they or their household simply did not like the product; this seems to mean they do not consider it appetizing. There was relatively little indication of preference for fresh or frozen fish except in the case of canned shrimp. Those who mentioned a specific objectionable feature of the product were relatively few.

The small number who mentioned price bears out indication we have noted that canned fish is not considered a luxury food by most households. However, the lowest income households, large households, farm households, and non-white households among the non-users did mention price with greater than average frequency.

It can be fairly stated that the canned fish industry is doing a good job in distributing its products so as to meet the demands of consumers in all parts of the country. Only 3.2 percent of all households have indicated that any item which they wished to purchase was not available at their usual shopping place. This figure was somewhat higher (5.8 percent) in the West. But most of these respondents wanted products so varied and unusual that no one product was reported with sufficient frequency to warrant a separate listing in the report. Respondents who wanted unavailable items were highly concentrated in metropolitan areas and in the highest income groups.

In general it seems that the canned fish industry has a product that is almost universally acceptable to the American public, with very few people who object to its use. This is true among all income levels except the very lowest. Canned fish is well liked, widey available, and used the year round.

We believe that the marketing problems of each of the major types of canned fish are so different that each should be considered individually where promotional problems are faced. I would like to point out a few of the most important findings about each type.

### Product Findings

It is important to note that 75 percent of all purchases of tuna are of more than one can. This certainly suggests that a segment of the market might be receptive to a can of tuna about twice the size of the 6- or 7-oz. can now generally distributed; certainly if any appreciable price advantage could be offered with it. If we can accept the theory that once a can is opened, consumption is very prompt, the larger can might lead to heavier consumption among those who would buy it. It is obvious even to a layman that much merchandising effort is directed to stimulate two-can purchases and with almost a third of users saying they purchase three or more cans at a time, perhaps something like a handy six-pack or four-pack is worth thinking about.

Salads and sandwiches are by far the most popular ways of serving canned tuna, with casseroles a distant third. The West reported a sharp difference from the pattern of the country. Other findings show that both salads and sandwiches are generally served by most respondents in all areas. Still it would be interesting to see how those who know the market would interpret the difference in the West.

When asked why they served canned tuna, 70 percent of all users said they liked it. Almost half the tuna users mention the ease, speed and convenience of serving it as a reason why they did so. This appears to suggest promotional possibilities. The one-pound can of canned salmon is far more widely used than the 7-oz. can, with average purchase being one or two cans.

Respondents were generally well aware of the differences between pink and red salmon. Purchases were about equally divided between the two kinds in the Northeast and West. The Central region favored pink salmon by a small margin. In the South, however, pink salmon was favored by 73 percent of all salmon-using households. As is to be expected, pink salmon was the more favored up to the $7,000 income group, at which point red salmon became more popular.

In contrast to the red vs. pink distinction, more than half of all respondents were unable to identify the variety of salmon they usually buy as it is related to the area the product comes from. A few did mention "Alaska" and a few said they used "Sockeye." Other varieties were mentioned by only a negligible number of respondents.

Salmon cakes, patties and loaves are by far the most popular way of serving. Nevertheless, these items are notably less popular in the Northeast where use of salmon in salads is nearly twice as frequently the most popular as in the rest of the country.

We have been able to touch on only the two leading items of canned fish. Detailed information about canned sardines and shrimp as well as many other questions is available in the report, *Household Consumer Preferences for Canned Fishery Products, 1956*, obtainable from the Fish and Wildlife Service of the Department of Interior.

## Presentation of 50th Anniversary Memento

**By A. Edward Brown,**
**1957 President,**
**National Canners Association**

I sincerely trust that you have enjoyed the program which we have presented here today and that it has given you information which will assist you in being of service to your readers, listeners and viewers. The relationship between the canning industry and the food editors of our country has been most cordial down through the years. This is, of course, as it should be. We are interested in producing wholesome, nourishing and attractive foods at reasonable prices. You are interested in calling the attention of your constituents to foods which meet these objectives and which contribute to the health and well-being of the public which you serve. We appreciate the necessity for impartial reporting imposed by the tenets of your profession, and we are happy that our products have merited the favorable comment which you have so generously bestowed upon them. We trust they will continue to do so.

In a more personal vein, your attendance at our conventions has been a source of pleasure to all of us. Both at Atlantic City a year ago and here in Chicago this year, your presence has been a stimulating influence. You have not only enlivened the proceedings, but have added an attractive and colorful note to our meetings. We have enjoyed the opportunity of making new acquaintances and of renewing old ones. We look forward to other meetings such as this in years to come. In conclusion, I would like, on behalf of the Association, to present each of you with a memento of this occasion in the form of a record commemorating our 50th Anniversary. It is entitled "A Half Century of American Songs and Events." We hope you will enjoy it.

Dr. IRA I. SOMERS

## Dr. Ira I. Somers Appointed Director of N.C.A. Research

Dr. Ira I. Somers, a member of the N.C.A. scientific research staff since 1943, has been appointed its Director of Research. He will move to N.C.A. headquarters in Washington, D. C., to assume his new duties.

Dr. Somers has been Associate Director of the Western Research Laboratory in Berkeley, Calif., since 1955.

He was born in Garland, Utah, June 28, 1916. He received his early education in the public schools of his native state and later attended the Utah Agricultural College, where he studied plant sciences and was awarded his B. S. degree in 1938.

Upon completion of his undergraduate studies he received a teaching and research fellowship at Rutgers University and in 1942 was awarded a Ph.D. degree in plant physiology, with minors in biochemistry and physical chemistry. His thesis was written on the interrelations of iron and manganese in the growth of plants.

Dr. Somers had his first introduction to the food technology of canning in 1935 when he was employed during the summer vacation from college by the Rocky Mountain Packing Corporation to head up its newly created quality control department. He held this position until entering graduate school.

Upon completion of his doctorate in 1942, Dr. Somers was employed by the University of California Laboratory for research in the canning industry, and in 1943 he began his career with the National Canners Association Western Branch Laboratary. In 1952 he was named Assistant Director of the Laboratory, and in 1953, upon the death of Dr. J. Russell Esty, the Acting Director. In 1955 he was named Associate Director of the Western Research Laboratory.

Dr. Somers' research and publications have been in the fields of processing, sanitation and quality improvement. Probably his outstanding contribution was the development of in-plant chlorination which has been one of the greatest factors for improvement of sanitation in canneries.

# INSTRUMENTATION IN PROCESSING

(jointly sponsored by N.C.A. and C.M. & S.A.)

PRESIDING: M. R. FEENEY, Lansing B. Warner, Inc., Chicago; Chairman, Technical Program Committee, C.M. & S.A.

ADDRESS: "Automatic Batch Retort Controls"—WILLIAM J. SCARLETT, Minneapolis-Honeywell Regulator Co., Brown Instruments Div., Philadelphia

ADDRESS: "Instrumentation—Application to Continuous Cookers"—JOHN E. BARBER, Taylor Instrument Companies, Rochester, N. Y.

## Automatic Batch Retort Controls

**By William J. Scarlett, Minneapolis-Honeywell Regulator Co.**

It is significant that we are assembled in this meeting to discuss automatic controls. This shows a healthy condition in our industry as the interest in the subject grows.

Facts and figures show that the food industry has lagged somewhat behind U. S. industry at large in taking advantage of the availability of automatic controls to improve process operations. For each thousand dollars of value added by manufacture per production employee, the food industry invests $5.67 in instruments and automatic controls. The corresponding figure is $21.40 for all U. S. industry and $47.50 for the chemical industry, which holds the record.

This is not to imply that all industry is the same, nor that automatic controls are by any means applicable to the same degree in all process operations. It may be significant, however, that the profit statements in the industries which use these devices to the greatest extent reflect profit margins as much as 10 percent greater than does the food industry.

Before launching into the more technical phases of automatic batch retort control, it might be of interest to review the major reasons why the thinking of progressive canners is turning more and more to consideration of using these automatic methods to replace traditional manual operations.

First: Every canner knows the importance to him of a proper cook. He must be sure that every particle of product has been subjected to proper temperatures so that shelf life is assured and keeping qualities are a maximum. Automatic controls will give him assurance that the necessary time-temperature conditions are met and will further, if he wishes, give him a record for each batch.

Second: It is equally important to restrict the time-temperature constants to the narrowest range of cook consistent with good practice. It is obvious that if this is not managed properly, product quality and uniformity of pack will suffer. Here again, automatic controls provide the best means of accomplishing this and furnishing records if these are desired.

Third: Every production operation should be managed to provide the same uniform high quality in each batch. This is also true of any product bearing the same label although produced in multiple plants. Automatic controls hold all process variables within narrow limits and thus provide the best means of attaining a high degree of uniformity.

Fourth: Application of automatic controls almost invariably results in increased production for any equipment. It is natural in any manually controlled operation to favor the safer operation. With automatic controls the margin of safety can be reduced to a minimum with the assurance that safe operating conditions will be met. This results in eliminating over-processing and, therefore, increases the number of batches which may be processed in any given period.

Fifth: With automatic retort control, manpower can be released for other activities. One man can load, unload and supervise the operation of from six to ten retorts depending on the length of cook required by the product.

Sixth: Dependable instruments are always on the job. They work for you 24 hours a day, are not subject to human whims, antics, disinterest, and absenteeism.

Seventh: Economics, of course, must be justified. Rather than attempt to place a dollar value on what automatic controls will accomplish in savings, it might be more apropos to outline the cost-saving features which can be evaluated best in individual considerations.

1. Cost of improper cook. Maybe it's unpleasant to mention, but we all know that there are instances of overcooking that result in at least downgrading if not in rejection of occasional batches. Add to this the cost in spoilage due to occasional insufficient cook.

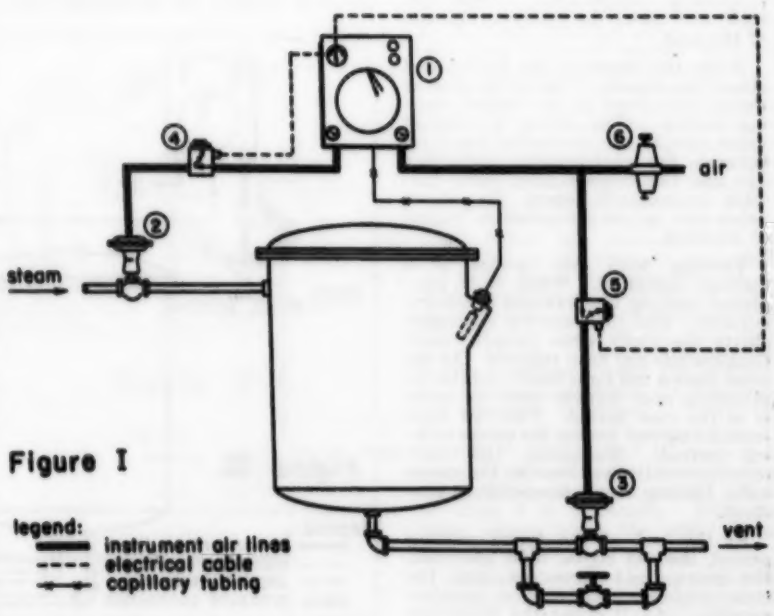



Figure 1

2. Increased production. With automatic control you can count on from one to three additional loads in each retort per eight-hour shift, thus reducing unit costs of all overhead and labor items.

3. Reduced cook room labor. When one man can readily handle six to ten retorts, manpower can be released for other operations. This factor alone is often sufficient to justify automatic controls and will permit the investment in instruments to pay out in one or two seasons.

4. All of the other advantages of closely controlled process conditions which reduce spoilage and down-grading, improve quality and uniformity, are difficult to evaluate in dollars and cents, but they are important and valuable considerations nonetheless.

Now that we've shown economic justification and the possibilities for improving product quality and uniformity, it is in order to point out a way to select the type and amount of control equipment which will be required.

First consideration is the type of cook, whether by steam or water. Next consideration is how much of the complete retort cycle should be automatically controlled. All instrument company representatives are prepared to discuss and evaluate these considerations with you.

Following are five "package systems" which my company is offering. I'm sure other companies in the control business can offer the equivalent at least in function.

1. For Steam Cooking with Automatic Blow Down (see figure I). This system automatically controls the processing temperature, times the cook, and blows the retort at the end of the cook.

After the operator has loaded and closed the retort, he turns the dial of the built-in timer to the desired cooking period. This opens a solenoid valve (4) in the controlled air lines between the thermometer controller (1) and the steam supply valve (2). This immediately opens the steam valve and retort temperature begins to increase.

Venting, with this system, is a manual operation. When it is completed, cooking temperature is quickly reached. The thermometer controller starts the timer when proper retort temperature has been reached. At the same time a red light built into the instrument case signals that the cycle is in the cook period. This red light remains lighted during the entire cooking period. Meanwhile the thermometer controller throttles the steam valve holding retort temperature constant.

At the end of the timed cooking period, the red signal light goes out, the green light comes on, and the timer performs two functions simultaneously: (A) It closes the three-way solenoid valve (4) in the air line to the steam valve causing steam to be shut off and (B) opens the three-way solenoid (5) in the air supply to the vent valve causing this valve to open, blowing down the retort. The green light stays on signalling that the retort is ready to be unloaded which, of course, is a manual operation.

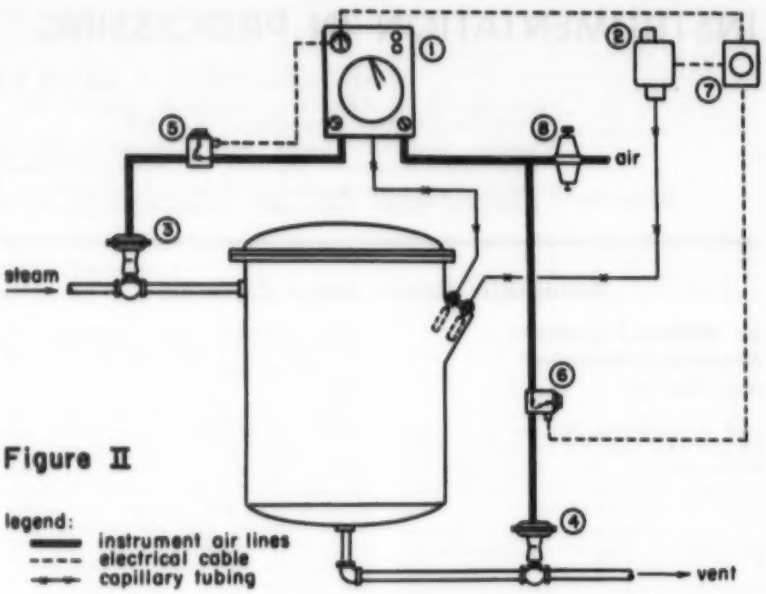



Figure II

2. For Steam Cooking with Automatic Blowdown plus Automatic Venting (see Figure II). This system not only controls the processing time and temperature, blows down the retort, but also automatically vents the retort according to N.C.A. standards.

After loading the retort, the operator turns the timer dial to the specified cooking period. The automatic sequence begins. First, the timer opens the three-way solenoid valve (5) in the controlled air line between the controller (1) and the steam valve (3). This opens the steam valve and retort temperature begins to rise.

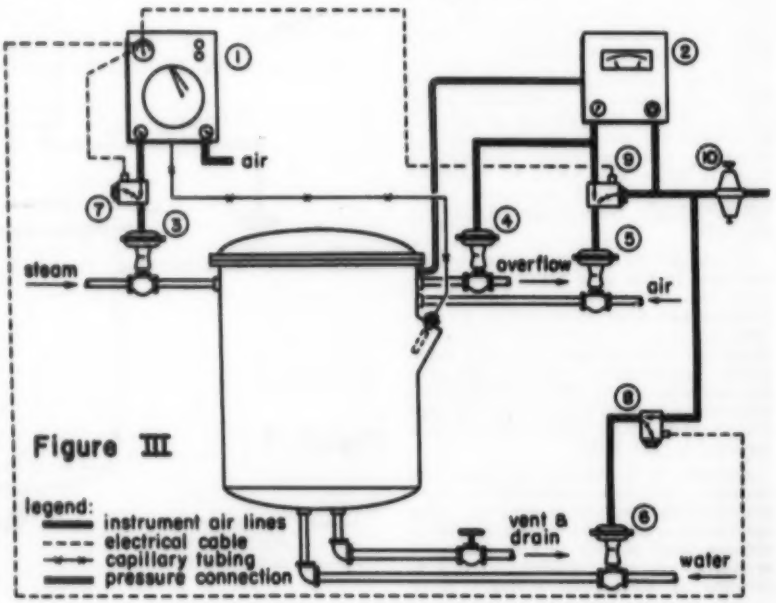



Figure III

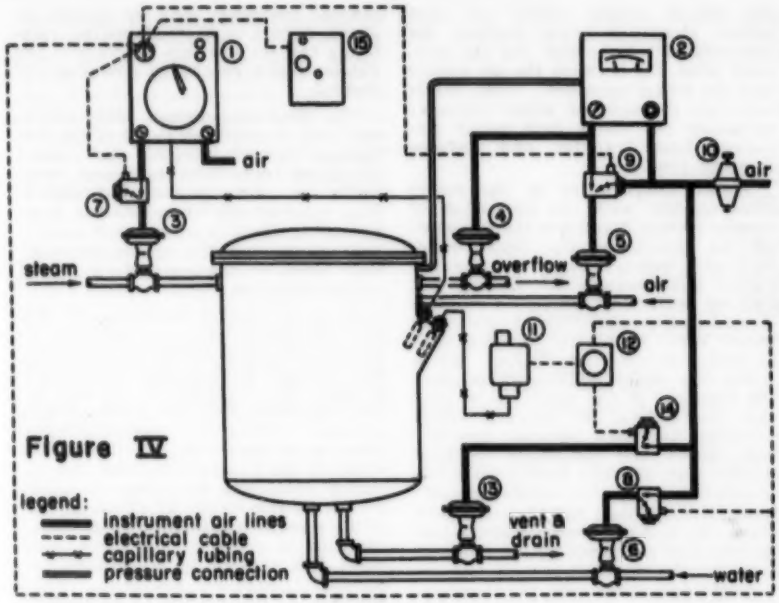



Figure IV

Second, the venting temperature controller (2) opens the three-way solenoid valve (6) between the air supply and the vent valve (4). This opens the vent valve and allows air to escape from the retort as steam enters. Venting continues until retort temperature reaches the set point of the venting controller and until the venting timer has run out, indicating the end of the minimum venting period. When both the temperature and time requirements have been satisfied, and only then, the air supply to the vent valve is cut off. The valve closes and venting is completed.

The built-in timer automatically begins to run when retort temperature has reached the set-point temperature. The red signal light comes on to show that the process is in the cooking phase of its cycle. During the cook, the time temperature controller throttles the steam valve to admit only as much steam as is needed to hold retort temperature at the correct valve.

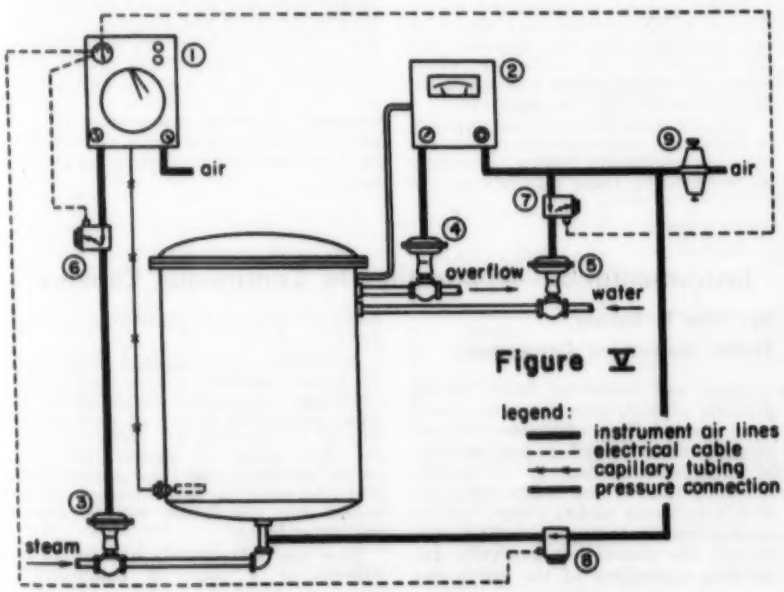



Figure V

At the end of the cooking period, the process timer closes the three-way solenoid valve (5), thus bleeding air from the diaphragm of the steam control valve (3) and shutting off the steam. Simultaneously, the timer opens the three-way solenoid (6) supplying air to the diaphragm of the vent valve (4), opening this valve and blowing down the retort. Instantly the red light goes out, the green light come on to signal that the retort is ready to be unloaded.

3. For Steam Cooking with Pressure Cooling (see Figure III). This system automatically controls the processing temperature, times the cook, admits cooling water at the end of the cook, and controls pressure in the retort during the cooling period.

The operator loads the retort and turns the timer dial to the desired cooking period. The timer then automatically opens the solenoid valve (7) in the controlled air line to the steam valve (3). This causes the steam valve to open, admitting steam to the retort.

In this system venting is done manually. When venting is completed retort temperature rises rapidly. Shortly, temperature is raised in the retort to process valve and the timer in the time-temperature controller (1) begins to run. The built-in red light also lights up and remains lighted for the entire cook. Meanwhile, the controller (1) throttles the steam valve to keep retort temperature exactly where it belongs.

When the cooking period is over, the timer closes solenoid valve (7) cutting off the air supply to the steam valve, thus closing it. The green light also turns on to indicate that the automatic pressure cooling cycle is on. At the same time, the timer energizes two other solenoid valves: First, a three-way solenoid (8) in the air supply line to the cooling water valve (6), which opens to admit cooling water to the retort and a three-way solenoid valve (9) in the controlled air line from the pressure controller (2) which allows the controller to keep a constant present pressure in the retort. When retort pressure drops below the desired valve as called for by the pressure controller, the latter opens air valve (5); should retort pressure go above the set point, the controller opens the overflow valve (4). Valves (4) and (5) have split range springs, thus do not oppose one another, although both are operated by the same controlled air line from the pressure controller. Valve (4) has a spring which requires 9 to 15 pounds of air pressure to cause it to open. Valve (5) is a normally open valve which closes on an air signal of from 3 to 9 pounds. Thus one valve opens when the other closes and vice versa.

At the end of the cooling period the operator cuts the current to the time-

temperature controller which automatically inactivates all the control valves. Before unloading the retort, the operator opens the drain valve and the control system is ready for the next cycle.

4. For Steam Cooking with Pressure Cooling Plus Automatic Venting (see Figure IV). This system operates in the same way as the previous one, with the additional functions of automatic venting and pushbutton draining.

When the operator turns the dial of the timer to set the period of cook, steam flows into the retort as in the previous system. Solenoid valve (14) opens, admitting control air to the valve operator on the vent and drain valve (13), thus opening this valve to vent the retort. Venting continues until the temperature in the retort has reached the temperature required by the set-point of the venting temperature controller (1). Venting is then completed providing the time measured on the venting timer (12) has met the requirement of the N.C.A. standard venting procedure. When both conditions of venting have been met, the venting control system closes solenoid valve (14), bleeding air from the vent and drain valve, causing it to close.

The retort temperature shortly reaches the valve required by the process and the red light flashes on. The timer begins to function to time out the cooking period and the thermometer throttles the steam valve to control the cooking temperature within close limits during the entire timed interval.

At the end of the cook, the timer shuts the steam valve, turns off the red light, and lights the green light to signal the beginning of the cooling period. Cooling water automatically flows into the retort and the pressure controller operates the split range control valves in the compressed air and overflow lines to maintain the required cooling pressure.

To complete the process, the operator has only to push a button on the cut-off relay (15) which closes all control valves except the vent and drain valve which opens to drain the retort. The control system is automatically reset for the next batch with which the operator replaces the completed batch.

5. For Water Cooking with Pressure Cooling (see Figure V). This system automatically controls processing temperature, times the cook, admits cooling water at the end of the cook, controls retort pressure and admits agitation air during the complete cycle.

Having loaded the retort, the operator turns the process timer dial on the time-temperature controller (1) to start the automatic cycle. The timer energizes (a) the solenoid valve (6) between the controller and the steam supply valve (3) and allows steam to begin heating the water-filled retort; and (b) the solenoid valve (8) between the air supply and the steam spreader. Thus, air is admitted through the steam spreader agitating the water bath which improves heat transfer and reduces come-up time.

Water temperature in the retort rises quickly with the admission of steam. When it reaches the set point of the controller, the timer automatically begins to run and the red signal light comes on. During the cooking period the red signal remains lighted and the controller throttles the steam valve to control cooking temperature within close limits. Meanwhile, it is essential to maintain process pressure in the retort to be sure that the differential between retort pressure and the internal pressure built up in the containers be kept within very definite limits. This is accomplished by the pressure controller (2) which operates overflow valve (4) to allow more or less air to escape, thus maintaining the required pressure in the retort.

At the end of the cook, the timer extinguishes the red light and turns on the green light, signalling the start of the cooling cycle. It also deenergizes the solenoid valve (6) in the controlled air line to the steam supply valve (3) closing the latter and terminating the cook. At the same time, it energizes solenoid valve (7) between air supply and water valve (5), thus allowing cooling water to flow into the retort. The pressure controller (2) continues to operate and to control the position of overflow valve (4), thus maintaining prescribed temperature in the retort during the cooling portion of the cycle.

When cooling is completed as indicated by the temperature shown on the controller (1), the operator cuts off current to the controller, which closes all control valves and resets the control system for the next cycle.

You will note that no drain is shown in the sketch, although this is required by most regulatory bodies. Draining as required by these regulations is a manual operation with the system as shown here, but it is, of course, relatively easy to add this function to the automatically controlled operations if desired.

The time-temperature controller is the basic instrument in all of the five package control systems for retorts discussed. Its built-in timer and signal lights are a true space-saving feature. But, most of all, these built-in components make this instrument a valuable yet economical program controller that takes all the guess-work out of retort operation.

It is, of course, impossible in the time allotted to show examples of all the combinations of control functions which might be included in a system to meet the requirements of any individual plant. Continuous retorts and agitated retorts are becoming more common in the industry. These, because of their complexity and the necessity of keeping all process variables within narrow limits at all times, absolutely require automatic control. No operator or group of operators could move fast enough to accomplish the necessary functions manually. This, however, is the subject to be covered by another speaker.

With the ever-increasing pressure from competition, the continuing drive for more uniform and higher quality, and the constant drive to hold processing costs to the absolute minimum even in the face of rising costs for labor and materials, canners' thoughts are turning to means and methods for improvement. The obvious course is to substitute continuous processing for traditional batch operations. Economics dictate the extent to which this can be accomplished. Other avenues of improvement, such as those discussed here, are worthy of the earnest consideration of the progressive canner. The instrument engineer representing any manufacturer member of C.M.&S.A. will be glad to assist you not only in the selection of control systems like these, but also in evaluating in dollars and cents the return on your investment in these improvements.

## Instrumentation—Application to Continuous Cookers

**By John E. Barber,**
**Taylor Instrument Companies**

There are numerous facets to the problem of instrumentation in a canning plant. This afternoon we are going to discuss the how and the why of such instrumentation. A specific example, that of the instrumentation of a continuous cooker-cooler, will be used primarily to highlight the points though the material is generally applicable regardless of the particular piece or pieces of processing equipment involved.

Normally, it is standard procedure to decide whether or not a project should be undertaken before deciding what particular pieces of equipment should be purchased. However, we are first going to discuss the how of the problem and then discuss the why, because in this manner it is hoped that the latter will be more understandable.

How are instruments applied to a process or a piece of equipment?

Assuming that an understanding of what instruments can do is present, then the principle task is to understand the process so that instruments can be applied intelligently. Such understanding implies knowledge of the actual equipment—what are its characteristics, size and limitations—and also understanding the particular processing requirements associated with the products being run.

Let us briefly examine the processing equipment. This particular unit consists of a pressure cooker, pressure cooler, and an atmospheric cooler. Seals are provided so that pressure can be maintained in the first two sections at the required levels. Each unit in essence is a large, horizontal, cylindrical vessel through which cans are continuously spiralled on reels.

The problem in the cooker is, of course, that of maintaining the temperature required for satisfactory processing. This is shown as control problem number one in Figure I.

Examination of the pressure cooler shows that there are three control problems involved. Control problem listed as number two is that of pressure. Obviously pressure must be maintained on the cans until they are cooled sufficiently so they will not bulge when pressure is released. Since the cans are cooled in water, the level of water in the pressure cooler must be maintained. This is problem number three. Control problem number four is that of temperature in the pressure cooler. Close examination reveals that the water in the cooler near the cooker end must be heated, while that at the can outlet end must be cooled.

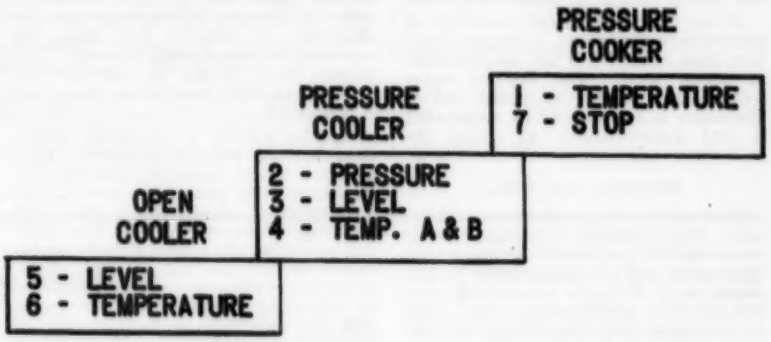
On the atmospheric cooler the problem of level exists, but this is simply taken care of, as will be seen in Figure II, by using an overflow pipe. The sixth problem is that of temperature in the atmospheric cooler.

One other point which we have not covered is that of stopping the reel. Some automatic means must be provided to stop the reel in case of a can jam or if the product temperature drops below some predetermined minimum. In actual practice, this predetermined minimum turns out to be approximately 1° F. below the normal processing temperature. Restarting must also be accomplished. Whereas it is necessary to stop the reel rapidly in case of either a can jam or a temperature drop, it must be restarted slowly so as not to overload the drive equipment. This also must be taken care of automatically.

This gives us at least a brief understanding of the processing equipment. Due to time we have ignored such things as actual volumes and heat capacities of the units and the heating and cooling loads, etc. Nor have we spelled out the temperatures, pressures and flow rates of water, steam and air which must be carefully considered if adequate control is to be provided.

FIGURE I

Control Problems in Continuous Cooker-Cooler




However, with the major problems pinpointed, let's see what the actual application of instruments turns out to be. Figure II shows that the temperature in the pressure cooker is measured near the can inlet end so that we sense and correct for breaks in can flow.

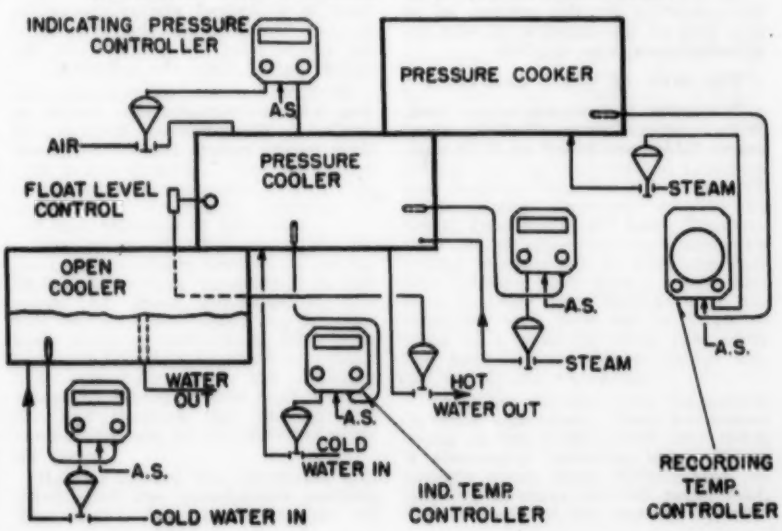
The temperature is controlled by admission of steam to the cooker. If the intent is to have a shutdown device operating approximately 1° F. below the normal control point, it is obvious that control must be accurately maintained. Generally this is a relatively simple control problem so that an on-off controller will produce the desired results. Care must be used in selection of the steam valve and the installation thereof.

### Pressure Cooling

Now let us look at the pressure cooler. This is similar to the pressure control problem on a retort, such as Mr. Scarlett just discussed, in that the pressure is measured and controlled by the admission of air to the cooler. To assure a constant level in the cooler, a simple float-type level controller actuates a diaphragm valve in the hot water discharge line. As pointed out earlier, two temperature control problems are involved. The temperature of the water at the can outlet end of the cooler is maintained by throttling the flow of cold water to the cooler. Since it is desirable to limit the initial cooling of cans as they come into the pressure cooler, a controller is supplied to admit steam to that end of the cooler. This is of considerable significance on initial

FIGURE II

Application of Instrumentation in Continuous Cooker Cooler



start-up or following a temporary shutdown because otherwise the water temperature at the can inlet end of the cooler would be undesirably low.

Since the final cooler operates at atmospheric pressure, a simple overflow pipe suffices for the maintenance of water level. The desired water temperature at the can outlet end of the cooler is maintained by measuring it and automatically adjusting the cold water admission.

### Stopping the Reel

How about the reel stop mechanism? This is simply a combination of electrical and pneumatic devices which detects the fall of temperature in the cooker to 1° F. below the normal control point, or detects a can jam. It is so arranged that the clutch of the drive mechanism is rapidly disengaged in case a shutdown is required. When the operator depresses the start button again, the drive mechanism is engaged slowly so that the mechanism is not overloaded. Adequate alarms such as lights and horns are employed so that the attention of the operator is quickly received. The arrangement of such alarms is of considerable significance. Obviously a system could be set up whereby the unit would shut down if the temperature fell below the desired point and then would automatically restart if it returned to the safe zone. This was deemed unwise because normally there is a reason why the temperature falls. This particular system alerts the operator so that he can determine the source of difficulty and eliminate it before the unit is restarted.

As you can see from this discussion, the actual instrumentation of this particular piece of equipment has not been impossible had not the details of the problem been spelled out originally.

Having accomplished the how of instrumentation for this process let us now look at the question of why instrumentation was applied.

### The Why of Instrumentation

Production is naturally a key word. With instrumentation all of the process variables are preset at their optimum values and maintained at these values. Variations in can flow rate do not upset the control. More or less steam, water and air flow automatically to the unit depending upon the demand. If difficulty does arise, the operator is immediately alerted. This means that things do not go unnoticed, so that productive hours are a maximum.

Quality control is extremely important to any successful plant. How can you more markedly improve the quality control than by removing the manipulation of equipment from the vagaries of an operator? The process variables are automatically maintained at optimum values. This eliminates misreading or misinterpretation of indicating thermometers and gages and the possible maladjustment of hand valves by operators. What plant can be assured that their operators will immediately stop the equipment if the proper processing temperature is not maintained? With a control system such as this, under-processing cannot occur.

Flexibility is another feature. With the controllers normally mounted on a single panel, it is a simple matter for the supervisory personnel to readjust the control points for different products or to quickly check the readjustments as made by operating personnel.

Is simplicity involved? Of course it is. All of you know that it is easier for supervisory personnel to occasionally glance at a panelboard to make certain that everything is in order than it is for them to be faced with the necessity of training people to manipulate a number of valves to produce desired end results.

The shortage of labor faces every growing company today. With the projected growth of population, the load on the food industry will be increasingly heavy. Manual operations must be minimized wherever possible, as they have been on this process, if we are to meet the productivity demands forced upon the industry.

We have discussed the principle reasons why instrumentations should be applied to this process. Each one of them means money for the processor —quality control, production, flexibility, simplicity and manpower.

Only one type of continuous cooler has been discussed. There are numerous other methods of continuously cooking food products. They fall into two basic categories: (1) can or jar cookers and (2) straight product cookers. The why and how of instrument application apply regardless of what the process or equipment in your plant may be. The problem could as easily have been that of temperature control in conjunction with the processing of beets or kosher pickles in jars in a hot water spray atmosphere. Or, it might be temperature control of baby food as discharged from a continuous scrapper blade type heated. It doesn't make any difference; the principles are the same.

On a particular job you may or may not be able to gain all of the advantages from instrumentation that were mentioned earlier. However, in most cases you can gain many of them.

Practically all industries realize the advantages of—and hence utilize—instrumentation. Other industries have gone beyond unit control systems such as we have discussed here and have installed central station control. Under such a system all of the processing operations of a plant are under the direct control of a few people at the central control panels. Some food processing plants are making noticeable strides in this direction. As with any industry, the variance of instrumentation used from plant to plant is large. There is much to be gained in those plants with little instrumentation by controlling their unit processes. Comparably, there is much to be gained by those plants which are fairly well unit controlled by going to central station control.

The instrument companies which are members of the Canning Machinery & Supplies Association include Foxboro, Minneapolis-Honeywell, Weston and Taylor. Though I can speak directly only for Taylor, I am certain that all of us welcome opportunities to work with you in solving your instrument problems, the solutions of which are to your advantage as well as to ours.

# CONTROL OF WAREHOUSE OPERATIONS

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ADDRESS: "Automatic Warehousing"—F. Y. TIERNAN, H. J. Heinz Co., Pittsburgh

## Automatic Warehousing

By F. Y. Tiernan,
H. J. Heinz Company

Great strides have been made in high speed continuous operations—product making, filling, and sterilizing—during the past decade. We know however, that the finished goods must also be handled at this same rate into and out of the warehouse, if we are to receive the full benefits made possible by the progress achieved in the processing fields.

You have heard it said no doubt that the handling of finished goods adds nothing to the product except cost—a perpetually increasing cost.

In attempting to minimize this expense, we in are company have profited by the experience of others. I am attempting here to describe our present method in hopes that it may be of some benefit to you. This exchange of ideas makes for accelerated obsolescence. Tomorow's material handling methods will quickly outmode today's. If, however, we had put off adopting any ideas until we felt we had achieved the ultimate we would today all be driving Model T's. The opportunities for effective economics in operation have hardly been touched. With the trend of continuing increasing labor costs, such opportunities are multiplied.

Today, we are pleased we are able to feed sheets of tinplate into a press in a can making department, and in some 1½ to 2 hours time, depending upon the type of sterilization employed, ship the case of canned goods to the customer without the tin having been touched or interrupted in its progress through the can making, filling, sterilizing, packing, palletizing, and the loading in an orderly controlled mechanized procedure.

Before describing where we are, I'd like to make some brief mention of where we were.

Our plant consists of a number of multi-storied buildings, each devoted to the processing, packing and, formerly, storing of certain varieties. These buildings are scattered over several blocks, separated by streets and alleys and connected by overhead bridges. To ship an order, it was necessary to collect the different varieties with four-wheeled hand trucks from the buildings where they had been manufactured and stored. The hand trucks were loaded and brought to an elevator in the buildings where they waited. So also waited the truck's motivating power. He waited for an empty truck which would eventually be returned by this elevator in order that he might resume his job of collecting the next load of goods.

(If you ever attended a convention in a large hotel, you know what an exasperatingly inefficient form of transportation an elevator can sometimes be.)

I know you are familiar with or can visualize the method of loading I referred to. Eventually, enough of the truck loads of merchandise reached the shipping dock and the truck or freight car, wherein each case was individually, slowly, carefully, tenderly placed by hand for shipment.

### BEGINNING CHANGES

Our first act in attempting to change the system was to choose the right site on which to build a warehouse, to receive, store and ship our finished goods. Our over-all plans are to have the raw materials and containers enter the plant area at one end and flow continuously into and through the various production buildings in one direction. The warehouse is located at the opposite end of this area. In other words, receiving at one end, shipping at the other.

The heart of this set-up is the group of buildings devoted to manufacturing various products. In the center of these buildings is one wherein we consolidated our labeling and packing operations. The filled tins and jars flow by chain or rubber belt conveyors from the building where processed to this packing center and through the labeling and casing lines set for the different sized packages.

Having located the warehouse and established the consolidated packing department, our next problem of course was to connect the two; that is, to get the cased goods from packing to the warehouse. The logical method for this job of transportation is conveyors. We did not want, however, to mix the various cases and products during this transfer, for that would have entailed an assorting job at the end of the line. A separate conveyor for each case and product was impractical because we were using 54 different case sizes. Since the products are separated by variety and size as they come out of the casing units, our aim was to keep them separate until they could be palletized. The solution was found to be in assembling the cases in the manner of cars in a freight yard and dispatching them over a main line in unit lots. The units preferred was the number of cases of that particular size which would make one pallet load and could be automatically palletized and delivered to the desired location in the warehouse, with the minimum of equipment. To do this automatically, I assure you, requires instrumentation and controls.

### CONTROL PATTERN

The equipment consists of accumulating coveyors, metering or counting belts, trunk lines, palletizing machines, and reciprocating lifts, all automatically controlled. These are operated by two control panels, one located in the packing department, the other in the warehouse. A 3-station intercommunication system with loud speakers connects the control stations and the foreman of operations. In the Consolidated Labeling and Packing Department, we have 12 accumulating conveyors varying in length from 240 to 470 feet. They extend like all other conveyors along the ceiling in order not to interfere with any working floor area. Their purpose as their name implies is to accumulate and hold up to 3 pallet loads of a paticular sized case until the time arrives for it to be dispatched to the warehouse.

Cases are elevated from the sealers to these conveyors. They are moved along on live rollers until they reach a stationary metering belt. When enough cases have accumulated on one line to make one full pallet load, the last one of the number selected

comes to rest for 5 seconds on a time-delay switch. This, of course, has been set at a pre-determined spot on the conveyor. The switch closes a circuit to the control panel and the metering belt is energized. This establishes the priority of this accumulating line on one of the four trunk lines carrying the cases to the warehouse.

When the last preceding load has been dispatched on the trunk line, the metering belt on our line starts up. The metering belt runs at a higher rate of speed than the belt feeding it, thus spacing the cases and enabling the electric eye to count out the exact number of this particular size required and dispatches one pallet load as a unit. These belts run above and at right angles to the trunk lines. As they start to deliver, a deflector which is automatically operated by an air cylinder, drops the cases onto the trunk line to be used.

The trunk lines, four in number, are approximately 900 feet long and run parallel along the ceilings of the intervening buildings and terminate at the center of the warehouse. The control panel in the packing department consists of plug-in cable connections for each accumulating conveyor. It is also equipped with multiple contact dial switches, which are set to determine the number of cases to be counted out at any one time from the accumulators to the trunk line. Automatic lights also indicate the operating condition of any part of the system.

The terminal point of each trunk line is a pallet loader located on the third floor and in the center of the warehouse. Each pallet loader is connected to a reciprocating lift servicing the three floors.

### Functions of Control Center

The control panel in the warehouse is located in a tower, similar to that in a railroad yard again, and high enough for the operator to see the cases arriving on the trunk lines. As a unit load approaches, he pushes a numbered button corresponding to the case size and this selects a relay control unit attached to the palletizer and called a pallet pattern cartridge. It is a rachet relay and step switch arrangement or a rotary switch with many contacts. It establishes a sequence of operations:

1. Determines the direction in which the cases enter the loader.

2. Determines the number of cases per layer.

3. Determines the number of layers per pallet.

4. Reverses the pattern of each layer in order to "tie in" the load.

5. Discharges the loaded pallet and positions an empty pallet for subsequent operation.

The man in the control tower also operates a 3-position switch which selects the floor to which the pallet is to be automatically dispatched. As the loaded pallet comes out of the palletizing machine, it is automatically picked up by a short chain conveyor and put on the vertical lift. When the lift reaches the pre-determined floor, it automatically ejects the loaded pallet onto a terminal conveyor. From here it is picked up by fork lift equipment and either stored in the warehouse or delivered to the loading dock.

### Routing of Pallets

Pallets to be stored are handled by battery powered high lift trucks capable of piling them five high. Those to be shipped are moved with low lift trucks to the staging area. If they are to be loaded as unit loads, a paper pallet will have been placed on the wooden pallet between it and the cases at the palletizing machine. The trucks equipped to handle paper pallets referred to as pul-pacs, pull the entire load onto their forks and place it in the truck or car. About one-third of all shipments are unit loaded. We use paper pallets extensively. We have experimented with but as yet not adopted any of the take it or leave it pallets. The wooden pallet used in a standard 40" x 48" two-way entry pallet. The number of cases which can be automatically palletized varies from a low of 36 to a high of 160. The weight varies from 500 to 3000 pounds, depending on the product.

The warehouse itself is a 3-story brick building, 250 feet wide and 500 feet long. The upper two floors have a ceiling height of 25 feet and a floor load capacity of 750 pounds per square foot. The lower floor has a 9 foot ceiling, accommodating two pallets high. The reason for this low floor height is due to a difference in railroad levels. The B. & O. railroad services one side of the building at the first floor level with 14 car spots on a double track. The Pennsylvania services the second floor level on the other side of the building, with 15 car spots and a double track. There are 46 truck spots at the two ends of the building, serving both the first and second floors.

I do not want to bore you further with statistics on equipment. If you have any particular questions, I am sure we can get into this later provided they are not of a technical nature. I am merely an operating man. I am not an engineer.

In developing this method of transferring, palletizing, storing and shipping canned goods, we experienced the normal amount of development and educational problems. We have however, greatly simplified and materially reduced the cost of handling our finished goods to the extent at least that at the end of four years of operation, we feel encouraged by the results.

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## Labeling and Casing

**By John C. Suerth and E. N. Burnett**
**Gerber Products Company**

### Glass Labeling and Casing

### By John C. Suerth

Actually, when we were originally asked to prepare a paper for this session, our subject was to be "Practical Applications of Instrumentation as Pertains to 'Labeling and Casing'." This is a fine title for a paper but, in reviewing our labeling and casing operation, I could not see where we would be qualified to be informative to a group like yours. After coming to this conclusion, I called your representatives and told them that instrumentation on this phase of our operation was really non-existent and, from what I gather, that this condition exists throughout the industry. In fact, you fellows must have worked hard to select the labeling and casing operation as one for application of instrumentation.

We finally decided that the best approach for us to take is to describe certain phases of our labeling and casing operation. Then, possibly, your members of the "Instrument Society of America" can tell us where we might use instrumentation in our labeling and casing operation.

We have divided our presentation into tin and glass. I will cover a few points on glass labeling and casing. Then Ed Burnett will cover our tin labeling and casing. Our tin labeling and casing may be of more interest to you because of our patented interlocking case which we use. Ed has been the real spark-plug in developing this case and the equipment.

In regard to glass labeling and casing, we handle three size glass containers: 3½-ounce (2-$^{7}/_{64}$" diameter by 2-$^{39}/_{64}$" height), 5-ounce (2-$^{7}/_{64}$" by 2-$^{17}/_{32}$"), and 8-ounce (2-$^{53}/_{64}$" by 3-$^{25}/_{32}$"). Our labels are all wrap-around labels. We operate all of our glass labeling lines at approximately 600 jars per minute.

In trying to operate at this speed, it became quite obvious early in the game that in order to minimize line shutdowns and maintain high line speeds all of the package materials must be uniform.

1. We first set up rigid specifications on our labels and cases and reached agreement with our suppliers.

2. We then instituted a definite program of receiving inspection on all labels and cases. This meant the providing of gauges and templates to our receiving inspection group. We use statistical sampling for our inspection and we complete the following inspection before the labels and cases are placed in storage:

a. Labels are inspected for color, dimensions, copy and mixed labels in bundles.

b. Cases are inspected for printing, size, board and rigidity.

In respect to our suppliers, I must tell you that since we set up these rigid specifications and followed through on inspection, they have done a fine job and reduced our line down time.

Our glass is loaded into retort baskets, which have a false bottom, by means of Barnes magnetic loaders whereby the jars are placed in baskets in layers with a divider plate between each layer.

At the head of our label line, our baskets are unloaded by means of a hydraulic cylinder being pushed through a hole in the bottom of our retort basket against a false bottom, which elevates one layer of jars at a time above the retort basket. A strap is then encircled around the layer of jars and they are manually pulled onto our "single filer unit."

The single filer unit was developed jointly by our Engineering Research Department and the Owens-Illinois Glass Company. The single filer is simple in design in that jars are moved forward on a platform chain about four feet wide and guide bars are placed above the chain at a specific angle so that the jars are channeled into a single lane. The angle of the guide bars is relative to the diameter of the jars and this angle is the critical point of this unit. In other words, the jars are forced into continually narrowing space until they are down to a single lane.

From our single filer, we move the jars forward through our washer-drier unit. The wet jars move through air jets where excess water is removed and then through two revolving nylon brushes and through a heat tunnel where they are dried. This is a Gerber development.

The balance of our line is Standard Knapp equipment which is in common use throughout the industry.

In order to increase our speeds or to increase efficiency at our present speeds, the following are things we can think of that would be helpful to us: (We now carry two inspections after labeling machine.)

1. Cracked jar detector
2. Low fill detector
3. Wrong label detector
4. Crooked label detector
5. No label detector
6. Cocked cap detector

## Tin Labeling and Casing

By E. N. Burnett

Instrumentation as far as labeling and casing are concerned, to our knowledge, is non-existent. "Automatic Labeling and Casing" are very familiar to me and relatively easy to define and explain. I think, however, that you will all agree with me that automation is largely a matter of degree. For example, I am convinced that with today's materials, know-how, and manpower and enough dollars, we could take any given operation in a cannery and make it 100 percent automatic, so that the superintendent could push the buttom to start it in the morning and do the same to stop it at night. I read recently that for somewhere between $5 and $15 billion it would be possible within the next 15 years for two men to take a trip to the moon and return. I am sure you will agree that in the canning business the economic factor must be weighed a little more carefully. Trips to the moon in the canning business are relatively few and far between if the canner expects to sell his product at a profit.

We could theorize for hours on the degree of automation that could be applied to a labeling and casing operation, but to keep this discussion within the realm of possibility, I think the best approach for me to use would be to describe to you the labeling and casing operation as it now stands at Gerber Products Company, and discuss some of the features which may or may not be new to you.

The particular operation that I have chosen to discuss is the handling of the tin containers at our plant in Oakland, California. If you are at all familiar with this particular make of equipment, you will note that we have ad libbed to a considerable degree and that the equipment (as shown in slides) is not the same equipment that was originally purchased from the supplier. This is entirely due to the type of container that we are handling. This particular type of container is called the Gerber interlocking container and was developed by us some time ago. For a time it was used exclusively, but the need for this type of container has been reduced and we are now packing in standard RSC containers as well as this special type.

On the tin operation at Gerber Products Company in Oakland, we have six complete labeling and casing lines and, in a normal day's operation during the peak of the season, we are packing approximately 2½ million cans per day on a two-shift basis. The size of cans handled consists of 202 x 214, the 202 x 202, and the 210 x 211. Maximum speeds are approximately 700 cans per minute. The shape of the container, the process required, and the type of equipment used for retorting or processing, determines the method of unscrambling the containers that are used:

It may be noted here that any equipment obtained from a supplier normally takes on some of the individuality of the particular plant in which that unit is placed. By this, I simply mean that the operating personnel—the mechanics, the engineers, even superintendents and vice presidents—have ideas that are carried out and placed on machines which each individual seems to feel makes the equipment operate more efficiently. This could be anything from a piece of baling wire or an extra spring to complicated gadgets for reducing labor, maintenance, etc. In fact, individual operators from one shift to the next may have little pet gadgets in the form of a piece of wire or something that they hang on the machine at the beginning of their shift and take off at the end. And, I suppose that these little gadgets could be considered as a type of automation. Devices developed by individuals in any given plant have a way of eventually becoming absorbed into the actual machine and may even be supplied on the next machine by the equipment supplier.

We have described Gerber's labeling and casing operations and suggested a few spots where further automation and instrumentation may be desirable. Since we are users of instrumentation to a much greater degree elsewhere in our operations than in labeling and casing, I would like to suggest to instrumentation suppliers that they strive for the following:

1. Simplification.
2. Lower first costs.
3. Improved service.

These three things are very important, especially to the small packers, and I believe if accomplished, would serve to carry us along the automation road at a much faster pace.

# FORTY NINERS SERVICE AWARD CEREMONY

PRESIDING: DAVID S. NAY, Wm. J. Stange Co., Chicago; President of The Forty Niners

ADDRESS: "Carlos Campbell—His Contribution to the Canning Industry"—LOUIS RATZESBERGER, Jr., Illinois Canning Co., Hoopeston, Ill., 1953 President of N.C.A.

ADDRESS: "Carlos Campbell—The Man"—NELSON H. BUDD, Assistant Secretary and Director of Information, N.C.A.

ACCEPTANCE by CARLOS CAMPBELL, Executive Secretary of N.C.A.

## Carlos Campbell Receives Forty Niners Service Award

N.C.A. Executive Secretary Carlos Campbell was presented The Forty Niners Fourth Annual Service Award, in recognition of exceptional service to the canning industry, in impressive ceremonies at the Sheraton-Blackstone Hotel, February 15.

Mr. Campbell is the first recipient of the award who comes from other than the scientific field.

David S. Nay, president of The Forty Niners, presided at the presentation ceremonies. He explained that the award ceremony each year has been arranged so as to have a tribute to the award recipient's professional attributes and accomplishments and a tribute to his personal character, to be followed by a response from the person being honored.

The first two parts were taken this year by Louis Ratzesberger, Jr., 1953 President of the N.C.A., who has been associated closely with Mr. Campbell in numerous Association activities, and Nelson H. Budd, Assistant Secretary and Director of Information at N.C.A., who works intimately with Mr. Campbell in Association affairs.

Top leaders of the canning and allied industries were present as guests of The Forty Niners at the award ceremony and reception which followed, honoring Mr. Campbell.

### THE FORTY NINERS

The Forty Niners is a service group organized in 1949 to assist the Canning Machinery and Supplies Association and other canning industry groups. It was established by 45 men whose firms were members of the C.M.&S.A.. Most of the original 45 were salesmen "diggin' for 49ers gold." Membership in the Forty Niners is limited to two persons from each C.M.&S.A. member firm.

The Forty Niners' first assignment, which they assumed for themselves at the time of their organization, was to usher at the Fred Waring Show at the 1949 Convention in Atlantic City. Since then they have assisted at many public events at canning industry meetings, serving the N.C.A. and the state and regional canners associations as well, in keeping with their objective of promoting high standards in the conduct of all canning industry affairs. The Forty Niners were ushers at the N.C.A.'s Golden Anniversary Banquet at the Palmer House February 17.

Another of their principal objectives is "to promote achievement in the forward progress of the canning industry by a system of awards given annually in recognition of individual meritorious achievement." The Forty Niners' Annual Service Awards thus have been given wide publicity throughout the canning industry.

### Recipients of Forty Niner Service Awards

1954

Dr. Samuel Cate Prescott, Professor Emeritus, Food Technology Department, Massachusetts Institute of Technology, Boston, Mass.

1955

Dr. John Charles Walker, Plant Pathologist, Plant Pathology Department, University of Wisconsin, Madison, Wis.

1956

Dr. Louis Gardner MacDowell, Director of Research Department, Florida Citrus Commission, Lake Alfred, Fla.

1957

Carlos Campbell, Executive Secretary, National Canners Association, Washington, D. C.

## Carlos Campbell—His Contribution to the Canning Industry

**By Louis Ratzesberger, Jr., The Illinois Canning Co.**

Three times in as many years the 49'ers have honored someone who has made an outstanding contribution to the canning industry. This Fourth Annual Service Award Presentation recognizes ability and accomplishment in a facet of the industry entirely different than those previously honored.

If I were pressed to recite the qualifications of this year's recipient in a few seconds, I could do no better than to quote that well remembered passage from Oliver Goldsmith's "The Deserted Village,"

In arguing too, the parson owned his skill,
For e'en vanquished, he could argue still:
While words of learned length and thundering sound
Amaz'd the gazing rustics rang'd around,
And still they gaz'd, and still the wonder grew,
That one small head could carry all he knew.

Carlos Campbell was born on a farm near Whitehall, Illinois, and his early rural experiences surely explain both his interest in economics and his later affiliation with a trade association so closely related to farming interests.

At an early age he founded several one-man vertically integrated businesses. Growing and canning tomatoes, and delivering the product door-to-door, Carlos learned some of the problems, if not the solutions, of grower, canner and distributor.

Attending both grade and high schools in Illinois, and in those days on foot, Carlos became a sprinter of renown and entering Illinois College on an athletic scholarship. A year later he transferred to the University of Illinois, where in 1920 he received his B.S. degree, after a tour of duty overseas in World War I. Returning to the University, ex-First Lt. Campbell immersed himself in the subject of economics and received his M.A. degree. His thesis on rural electrification was one of the earliest treatises on this subject and was part of the

long and happy marriage of farming and economics in his career.

Teaching experience at Roanoke, Illinois, High School and the University of Illinois stood Carlos in good stead in many Association meetings, in training staff members and particularly in educating a long line of N.C.A. presidents. It is even possible that Roanoke carried a connotation of Virginia for in 1921, Eleanor Randolph Koon, one of the FFV, became Mrs. Campbell.

Not satisfied with learning in one University, the next stop was the University of Arkansas where Associate Professor of Economics Campbell taught, studied for advanced degrees, and wrote as his thesis a study of the canning industry in Arkansas.

This early interest in the canning industry developed from a close friendship with Richard Dickinson of Eureka, Illinois, who served as President of the National Canners Association in 1916. His proclivity for treatises and expository writing continues undiminished. A quiet discussion with Carlos at his desk will often be interrupted by his saying, "Here's a speech I wrote on that point—probably will never use it!" But frequently at canners meetings, some of those speeches are used and invariably reflect the speaker's economic background and public relations consciousness.

In 1929 Carlos became an economist with the U. S. Department of Agriculture. In this post he appeared at sessions of more than one National Canners Convention, discussing the economics of farming and canning. I can well remember Economist Campbell with his charts and long pointer at those meetings. Obviously, more than one canner was impressed with these presentations, for in 1934 Carlos became the first Director of Statistics for the National Canners Association.

Although the Association had begun the collection of pack statistics in its earliest years, it remained for Carlos to organize this work into a year-round program. With many canners reluctant to report packs and shipments, it was necessary to convince them of the importance of prompt, accurate reporting and of the efficient and reliable use of the information compiled and disseminated by the Association.

In establishing this statistical program, Director Campbell performed his first major service to the canning industry. The guiding principles of professional excellence, objectivity, and absence of bias resulted in the program being accepted and used not only by industry, but also by government and public alike with absolute confidence.

This program became of inestimable value in the days of NRA, World War II, and in the Korean action, as well as in peacetime years when industry problems grew even as the usage of canned foods multiplied.

During many of the war emergency situations Carlos served as consultant, usually unofficially, of WPB, OPA and other agencies when such obstacles as price ceilings, materials allocations, priorities, and set-asides seemed always on the verge of preventing the industry from accomplishing its job of feeding the armed forces and our allies, as well as our civilian population.

During these emergency-filled years Carlos had served as Executive Assistant to Frank Gorrell, the founding Secretary of N.C.A. Upon Mr.

LOUIS RATZESBERGER, Jr.

Gorrell's resignation in 1945 Carlos was appointed Executive Secretary, in which office he has guided the Association in furthering its original and basic services with new emphasis in the field of its public relations.

As an understudy of Secretary Gorrell, Carlos absorbed a lot of the know-how and philosophy of "the man called Frank." A contemporary at N.C.A. some years ago said of Carlos, "He believes that progress is made faster by acting on points of agreement than by prolonging debate on differences of opinion." Carlos could even fit the description of a conservative—one who acts impulsively after thinking a long time.

In the early years of N.C.A. great emphasis was placed upon the work of the laboratory. It was Secretary Campbell's concept that having achieved a sound scientific foundation, the Association should exploit its public relations potential. While all Gaul is divided into three parts, N.C.A.'s public is fourfold—the consumer, the government, the farmer-grower and the industry at large; and N.C.A. staff has been carefully and continuously trained and directed with those publics in mind.

On the consumer front the Association had long recognized both an obligation and an opportunity to bring the value and wholesomeness of canned foods more directly to the consuming public. The establishment of the Home Economics Division in 1928 resulted in increased activity on this front and renaming this activity the Consumers Service Division emphasized the public relations aspect of this work.

At the Convention in January of 1954, the Association authorized a Consumer and Trade Relations program. In supervising this program and coordinating it with all of N.C.A.'s other activities, Secretary Campbell has parlayed a modest voice into a resounding chorus singing the praises of canned foods.

Just why do we have trade associations? One writer says the philosophy of a trade association can be summed up in these meaningful words: "People working together."

Certainly Carlos Campbell has served the industry well in marshalling the industry's collective intelligence and developing unity of purpose and action.

Just as churches set up the moral environment in which to live and raise a family, so do trade associations provide the ethical and economic setting in which to run a business.

Certainly Carlos Campbell has by example and by his direction of N.C.A. and its staff provided that ethical and economic setting.

It has been suggested that trade associations are a part of a great experiment in democracy, a bulwark against government regulation and dictatorship, a protector of our free enterprise system.

Certainly Carlos Campbell qualifies as an outstanding executive of that kind of association.

Aristotle once said:

"Excellence is an art won by training and habituation.
We do not act rightly because we have virtue or excellence, but we rather have those because we have acted rightly.
We are what we repeatedly do.
Excellence, then, is not an act but a habit."

I am proud to have had a part in recognizing the excellence of Carlos Campbell.

# Carlos Campbell—The Man

**By Nelson H. Budd,**
**Director, Information Division,**
**National Canners Association**

When President David S. Nay requested me to do this profile of the human side of Carlos Campbell, I protested on these grounds:

Anything Budd says about Campbell will be suspect because it is well known that Budd works for Campbell, and who wouldn't praise his boss, especially before an audience containing a number of Campbell's bosses? A partisan eulogist, to quote George Orwell, is expected to use language "designed to make lies sound truthful and give an appearance of solidity to pure wind." I told Dave Nay that he'd get more penetration and acceptance for a eulogy delivered by some neutral whose job is not at stake.

But President Nay was not impressed with this alibi for getting out of a tight spot. I wanted whatever is said about Campbell to have authority without being suspect. Nay wanted the paper on Campbell—The Man written by someone close enough to the subject to apprehend the human aura; to have observed the Campbell reactions to rush-hour traffic, to government bureaucrats, to the Washington cocktail party, to members' ideas of how the Association should be run, to the idiosyncrasies of his staff subordinates, to women, and dogs, and Episcopalian brother-vestrymen. That's what Nay said he wanted.

I fancy that Dave Nay knows how much of my work at N.C.A. is ghostwriting and he thought that no matter who was assigned to this portion of the Forty-Niners Award Ceremony, Budd would be called upon to supply the first draft of the manuscript. As an efficient businessman, Nay decided to go direct to the source and stop there.

Therefore, if, in the things I say today about my boss you recognize statements that have a familiar ring, it is probably because you have read them somewhere else, under another byline. The other day, in a desperate effort to meet a fast deadline, I caught myself plagiarizing an old article about some phase of canning and feeling professionally guilty and ashamed as I did so, until I suddenly became aware that the man I was plagiarizing had himself plagiarized something of mine when he did the article I was myself then plagiarizing. Like women's fashions and popular music, plagiarizing also comes full circle. Some of what I shall include in this paper has already been copyrighted, but I'm going ahead and violate that copyright regardless, because I can prove that I wrote it first.

Let us, in starting, deal with that frequent question, How did Carlos Campbell get his first name? Why did a Scotch family call its offspring in Spanish? Carlos' mother died when he was seven and none of the family knows why she so named him. Among Scotch families, however, Carlos, as a substitute for the English name Charles, is not uncommon. It's one way to express disapproval of England. And then, Carlos himself avers that maybe not all of the sailors of the Spanish Armada were drowned; some of them swam ashore and settled in various parts of the British Isles.

Scotch traits are strongly evident in Carlos' management of Association funds. On the staff we encounter this when we apply for salary raises. This characteristic was plaintively aired once by Johnny McGovern when he delivered a Committee report from only a half-sheet of paper: "Carlos only allowed us 50 percent of our expenses to this meeting; he's only going to get half a report," said Johnny.

And Alex Verbeke once expressed it this way: "The name is Scotch—and as far as budgets go, this is apt—because he never spends a dime of our money unnecessarily. On the other hand, he is not parsimonious in his hospitality, as all of us who visit Virginia annually have come to know."

Carlos—The Man is most frequently described as "homespun." Most of his illustrations are rural. Ed Kellogg books him in a Pullman berth over the wheels; Carlos complains to Ed that it used to be more comfortable riding in the old family springboard.

His was a rugged boyhood on the birthplace-farm near Whitehall, Ill., so far off the hardroads that after Christmas shopping the family didn't get back into town until the April-May thaws. Carlos worked often at sub-zero temperatures, milking about 20 cows, raising and feeding hogs, growing corn, threshing wheat and oats, walking across fields three miles to attend school after the morning chores. He's never quite gotten over this; he is still an early riser and often has put in a lot of licks around the yard and gardens of his place on Arlington Ridge Road before he starts to the office. Despite the usual gentleness of the Virginia winter, I wouldn't be surprised if he's still addicted to long underwear.

The wonder is frequently expressed as to how Carlos can cope with so diverse a set of problems as come to him daily from all corners of the canning industry. Phone calls and telegrams and teletypes are endless, all day, every day, and frequently no two are on the same subject.

There was training for that also. At one time, while self-earning his education money, Carlos took a job teaching biology, arithmetic and English at a combined grade and high school for $40 a month. The janitor quit and Carlos took on his job, at $12.50 a month, giving him a total intake of $52.50 monthly. Meantime, he lived at the local hotel for $3.50 a week room and board. "Never since," he says, "have I enjoyed so gainful a spread between income and outgo."

From college and his school-teaching job it was easy to get home for weekends, holidays and vacations, and he entrepreneured a host of money-raising ventures, all at the same time. For instance, he operated a successful tomato-canning enterprise in his father's barn. He planted and grew about four acres, bought cans and equipment on borrowed funds, packed No. 3 hole-in-cap cans, hand-soldering the tips himself, and sold his shed full of production (about 2,000 cans) from door to door. "Spoilage was fairly high—all of it before sales, of course," he reports. Also he barreled and sold apples from orchards of the neighborhood; he kept a cow and operated a milk route, collecting revenue from about 20 customers; he canned apple-seconds after the tomato season ran out; he worked in a machine shop. While a sophomore at the University of Illinois, Carlos was at one and the same time janitor of the Commerce Building, waiter in a campus restaurant, and star sprinter on the track team. After such experience in managing a dozen enterprises simultaneously, what are 100 phone calls a day?

An important event in April, 1917, abruptly put a temporary halt to Carlos' combined academic, business and athletic career. He enlisted at Champaign and not long afterward found himself at Fort Dade, Florida. "That way, I got out of final exams," he says. Land-grant colleges have required military drill; Carlos knew the manual-of-arms and was put to teaching draftees. He rose rapidly through several degrees of corporal and sergeant. He could understand the technical phases of mine laying; they had him plotting the floor of Tampa Bay in defense of possible German submarine attack.

After a year of fighting sandfleas, Carlos started figuring a way of escape. Learning that a hospital unit would accompany the next mobile artillery movement abroad, he took a two months intensive training for pharmacist, passed the examination, and when the convoy set forth, Top Sergeant Campbell was in charge of a medical unit. The trip to France was slow—13 ships, 13 days, one vessel lost to submarine attack; a week in Liverpool, a week in Winchester, then Le Havre. Campbell's squad landed on French soil with a gunnysack full of Liverpool bread and did a landoffice business trading it for French wine. His artillery unit, having trained on 6-inch rifles at Fort Dade, was now issued 8-inch British howitzers. This switch slowed

up their advance to the front, although they did get a month apiece by squads, and were reforming to go in as a unit when the Armistice of November 11, 1918, was signed. Carlos' commission as Second Lieutenant arrived by wire from Pershing in October.

On request he was detached for study at The Sorbonne, the winter of 1918-1919, his course in biological chemistry under a man who had been one of Louis Pasteur's assistants. Far from Bohemian in his moral standards, Carlos nevertheless lived in the Latin Quarter, and before his term was over knew Paris better than any town in America. The Paris Conference and Versailles Peace Treaty meetings were under way and Carlos frequently saw Woodrow Wilson, Lloyd George, Clemenceau and Orlando around Hotel Crillon and Place de la Concorde. On field trips in botany he gathered specimens in the Seine and Marne Valleys, not far from Nicolas Appert's stamping grounds. He was still adjutant of his outfit and in May was returned to St. Nazaire to start paying off the men preliminary to their return home. They sailed July, 1919, and Carlos was finally discharged from service at Camp Grant, Illinois, after putting in an appearance at Camp Dix, New Jersey, and in Washington. There he hit up Dr. Harvey Wiley, father of the Pure Food Act, for a job in Food and Drug, but Wiley advised him to finish college.

So this he did, carrying right straight through for 12 consecutive months to make his B. Sc., meanwhile teaching high school classes and getting married. In Army posts, Carlos had met Eleanor Koon of Baltimore, who was in church canteen service. He had made excuses for leaves in Baltimore, both before and after going to France, and on December 28, 1921, they were married during the Christmas holidays. In his annual fall tours of the state canners association meetings Carlos has displayed a corresponding resourcefulness. He often contrives to find a good University of Illinois football game somewhere convenient to his itinerary, although this has become more difficult in recent seasons—that is, finding a good Illinois game.

Carlos wound up his academic pursuits with his master's degree and thesis on rural electrification plus a doctor's dissertation on "Growing of Tomatoes; Economic Aspects of Cannery Management," the data for which he had gathered during 18 months in and out of 105 Ozark canneries (he was at that time on the University of Arkansas faculty). Although he has since authored numerous more significant tracts, this undertaking undoubtedly influenced the direction his career was to take. For some years to come it tagged him in government circles as a canning industry expert, and in industry circles as an economic savant. There was a by-product; it won him admission into the intellectually-elect membership of Washington's high-domed Cosmos Club.

And it should be noted here that the instinct of the teacher is strong in Carlos Campbell. If he had not become a trade association executive, there is little doubt he'd have been a professor of economics in some university or college. Scholarship and teachership marched side by side in his developing career. The fierce determination to complete his courses and win his degrees, against difficult financial odds, indicate a powerful educator compulsion, and this is manifest in his operations today. N.C.A. staff meetings sometimes become seminars; staff orders are accompanied by instruction, by elucidation of principle, precept and theorem. You do more than carry out your assignments, if you have any perception at all. You apprehend the precise position of your given chore within the pattern of the philosophy and policy of total Association service. That's Dean Campbell's 8 o'clock lecture you're attending! Once in awhile, even the canner-members start looking for their notebooks!

Carlos has a high regard for broad-mindedness, but he believes that really good minds have more than one dimension. He considers depth fully as essential as breadth.

To resume the human side of his career: On January 14, 1929, an important transfer occurred when the Campbells pulled up stakes in Arkansas, crated their furniture and shipped it to Washington where Carlos became an agricultural economist with the U.S. Department of Agriculture, and was shortly attached to the Bureau of Agricultural Economics. When the Agricultural Adjustment Administration was set up in USDA, he was transferred from BAE to become Chairman of the Rice Committee and a member of the Wheat Committee. As you might expect, he opposed the theories advanced by others of this group—Henry Wallace, Rexford Tugwell, Lee Pressman, Nathan Witt, Alger Hiss—and they fired him, accomplishing this through the tactic of neglecting to invite him to their meetings. Thus, Carlos, unlike many, escaped the culpability of guilt by association charges that were common in Washington investigations not so long ago. The canners who came to Washington in great numbers during the early disturbing days of New Deal manifestation got to know Carlos Campbell's views, abilities, and attitudes, and were favorably impressed. The rest is history, and the record speaks with eloquence.

My predecessor, the late Jay Fitzgerald, used to say about Carlos that he always "contempers his celerity with cunctation," which was a quotation from former Governor Pennypacker of Pennsylvania. Carlos takes his time to get set for a start, but he makes a fast breakaway when the gun sounds, just like when he was a star sprinter in college. Too often this nerve-wracking procrastination puts canners and the staff into a state of nervous jitters, but the burst of improvisation at the end is usually brilliant. For example, getting Carlos to give you the manuscript of one of his speeches in time to do a decent space-winning press release is a bootless endeavor. But on one occasion, the impromptu remarks he introduced, picked up by the Associated Press, got more column inches than any prepared press release we ever issued.

Carlos is very respectful of facts and figures, but he realizes there is truth in the old saying that: "Figures can't lie, but liars can figure." As a consequence, statistics brought to him for use or approval get a canny scrutiny and an uncompromising rejection if they smell bad.

If mistakes are made—by others or by himself—Carlos will give them a decent burial but he won't prolong the funeral services.

In an organization that is sound in its program and working methods, Carlos believes it unnecessary to manufacture periodic crises, so-called, to gain attention and gather in new members. He believes a trade association really sells itself by the kind of job it does for its members, day in and day out. But he can muster the required skills to cope with a real emergency when it does arise.

Carlos believes sincerely that employees of an organization have both duties and rights in connection with their jobs. If they can't maintain a proper balance between what the organization owes them and what they owe the organization, he considers them "misplaced" persons and final deportation is about the only remedy. Lacking the disposition of a bouncer, Carlos prefers the "easing out" process. Sometimes this consumes a considerable, almost an insufferable time.

Even though he does not "suffer fools gladly," Carlos is by nature quiet, considerate and patient, characteristics frequently mistaken for lack of force. Sometimes it is felt that if he would, just occasionally, let out a bellow and kick the furniture around, the staff, as well as appropriate elements of the industry, would derive a clearer idea of who is the boss. Some people are impressed only by sound and fury; it might be given to them "when needed," as some doctor's prescriptions read.

And lastly, we come to the genuine modestry of the man Campbell. As an N.C.A. press agent I am frequently frustrated by his unwillingness to take the spotlight. There are many occasions when a personalized

story, or statement, or press release would garner much more space, but the man is adamant in his resistance to being featured. His consistent view is that we are not publicizing an individual, not even the Association; but the canning industry and its products. To be quoted, to be named, to be depicted as a leader—these techniques are abhorrent to him. As Norman Sorensen has pointed out, Carlos believes that "a good promotion man does his best work if 10 other men are in the forefront of the campaign." The result of this is that the Campbell leadership and direction emerge under divers other bylines and disguises.

"The resourceful Mr. Campbell works so quietly in the background that members of the industry are not aware of the job he is doing," Mr. Sorensen points out. "The National Canners Association is a powerful and effective organization, but that is not happenstance. The great strength of the Association must stem from the wise guidance of a carefully chosen staff. And that brings us back to Carlos Campbell, who has managed the affairs of the Association for many successful years. For his big part in furthering the welfare of the whole industry we pay tribute to him. We are confident that all thoughtful canners join in this heartfelt expression."

In conclusion, let me concede that this paper has been a disorganized mixture of biography and character-depiction, but I make my apology in the words of the philosopher who said: "If you would know what manner of man he is, look to what he has done and how he has done it."

## Acceptance of 49'er Meritorious Service Award for 1957

**By Carlos Campbell,**
**Executive Secretary,**
**National Canners Association**

There is no greater honor than that of being recognized by one's colleagues. Consequently I thank you, my good friends, very much for selecting me to receive this cherished award. If this be fame, I accept before the illusion fades. I realize, however, that more men have achieved fame by being in the right place at the right time than by superior accomplishment. Being the manager of the National Canners Association at the time of its Golden Anniversary must have been an important consideration in this selection. The job and the N.C.A. itself is, therefore, entitled to share in this honor. It shares by virtue of the fact that for the first time recognition is given to the contribution of group management.

Society is organized for the purpose of maintaining and enforcing such rules (laws) as are required to promote the general welfare of the people; this we call government. When businessmen organize to effect a more perfect functioning of the free enterprise system by voluntarily working together at such tasks as will supplement their separate individual activities, the ideal trade association is created.

Note, in this definition, the emphasis on "voluntary" participation and the priority given to "individual" activity.

The rule of voluntary action places a healthy responsibility on the trade association. Any program that relies on voluntary acceptance for its support must be sound and, furthermore, it must be analyzed in all of its details in order that it may be sold to the membership. This principle, more than any other, keeps a trade association on its toes and constantly alert to those programs that will best serve its membership.

Freedom of individual action is basic to the success of our economic system. Businessmen operate according to a set of economic rules, frequently referred to as "the free enterprise system." Long years of experience have demonstrated that the economic checks and balances inherent in this "system" permit sufficient expression of man's selfish interests in the acquisition of a share of the nation's wealth and at the same time provide protection from exploitation of other members of the society in which he operates.

Practically all authorities agree that the trade association is indispensable to the preservation of our free enterprise system. Thus it seems that any trade association must have as its principal objective the preservation of those economic checks and balances as well as the freedoms that characterize the free enterprise system. Furthermore, it is essential to point out that these objectives must be accomplished through voluntary action of businessmen working together.

It it likewise important to define the area of operation of the trade association. The trade association should supplement those activities which the individual businessman can perform most effectively when acting independently. It is equally as important that a trade association should not assume that responsibility for performing any job which rightfully belongs to the individual even in those cases where the association could perform the job more efficiently and to the temporary benefit of some individual.

The need for a trade association arises primarily because of the high degree of integration of the nation's economy and because of our complicated political organization.

The free enterprise system is built around the individual and its success depends on such things as the freedom of the individual to choose his business and to move from one business to another without interference, the right of the individual to produce as much or as little as he wishes, to sell the product where and to whom he selects, and at a price of his own choosing. In each of these steps the individual businessman exercises judgment, the accuracy of which determines in large degree his success, measured in terms of profits. Profits act as a stimulus on production, the extent of which depends on the individual's reaction to that stimulus. It is the aggregate of the reactions of individual businessmen operating individually that constitutes an industry's response to the profit stimulus. Furthermore, the competition among individual businessmen, each acting on his own independent judgment and evaluation of supply and demand factors, is the delicate mechanism of checks and balances that provides the maximum protection to the consuming public.

A trade association should not under any of these circumstances presume to substitute its judgment for that of the individual because to do so would throw the economic machine out of balance. No group of businessmen operating jointly as a trade association is smart enough to do a better job of controlling any of these economic operations, whether it be prices or production, than is accomplished through the unfettered competition that characterizes the properly functioning free enterprise system. Consequently, businessmen working together as a trade association realize, or should realize, that economic laws as well as man-made laws prevent the association from functioning as a control mechanism of prices and production.

The extensive operations that take place in any business—including the acquisition of raw material and of supplies and machines needed for production, the skill required for efficient manufacture, the problems of merchandising and selling, as well as the financing of all of these operations—constitute a maze of individual actions each requiring judgment. Few men can hope to be expert in all of these operations or adequately experienced in making the essential decisions. Thus individual businessmen have found it to their advantage to specialize in those activities in which they are best trained and for which they are best qualified to perform.

Frequently groups of men, each expert in his own field, join together to form a corporation. If the individuals assigned to their respective tasks

in a corporation complement each other and there is efficient management of the utilization of these complementary abilities, a "superior individual businessman" may be created. With good management such a combination of business talent tends to provide for the corporation a high degree of efficiency of performance of each of the many operations of the business. There is, however, an inherent weakness in such organizations, a weakness which enables the small operator to compete.

The individual businessman who in the present-day highly integrated economy undertakes to perform all of the necessary functions of business, make the required decisions with respect to all phases of the operation, has the advantage of the profit reward for a successful operation that frequently does not accrue directly to the various businessmen who work for a corporation.

Since men are not endowed by nature with equal ability to compete in business, it necessarily follows that some men will succeed and others fail. This is the result that must be expected when the basic economic rules of business are permitted to operate freely. There is no denying the fact that such competition is destructive for the one who loses out, but it is not the job of the trade association, nor for that matter the government, to attempt to prevent such destruction. The association's job is to help preserve the rules of the game while the government sees to it that the players abide by the rules.

The normal competitive situation within an industry may, however, be altered by legal privileges granted by the government. The government has, from time to time, placed laws on the statute books designed to equalize the competition among business units which, because of their type of organization, may be unequal in their ability to compete.

Man-made laws designed to equalize competition seem never quite to achieve the ideal. Thus the legislative job of amending old laws and writing new laws continues. The inability of legislators to achieve perfection in the equalization of competition together with efforts on the part of certain groups to gain advantages, creates a situation in which the trade association may provide an indispensable service to its industry.

It is recognized by most economists that such laws may tend to discourage the greater efficiency that can result from distribution of jobs in the business enterprise to those best qualified to perform them. In defense of such legislation it is frequently pointed out that efficiency alone is not the sole objective. The welfare of other members of society must be taken into account by the government.

The welfare of the consuming public is best assured by the preservation of the type of competition among producing units that obtains when the only elements of inequality are the businessman's talents. This fine balance may result when a relatively large number of individual producers is reacting to the economic forces in accordance with his own evaluation of them. The same type of balance may be and frequently is achieved through competition between or among a small number of large units. It is believed by many, however, that equal opportunity for the small businessman to compete with the medium and large business units should be preserved. This view is reflected in much of the current legislation affecting business.

There are those who believe that the economic efficiencies of a monopoly may be achieved and the fruits of its production equitably distributed among consumers if this allegedly perfect organization is managed by the government.

The advocates of statism, socialism, collectivism, or other types of business dictatorship by government all have a blind spot in their economic understanding, and that sightless area fails to observe that the great motivating force of man in all of his economic activities is self-interest. It is because of this self-interest that the profit reward is the most effective stimulus in bringing out the best there is in businessmen's talents.

Trade associations recognize these selfish motives but they also recognize that they influence businessmen's actions in varying degrees. Furthermore, they recognize that certain shortsighted businessmen will frequently engage in activities that appear to them to be desirable as a means of satisfying their acquisitive instincts but actually the long-time effect of which is not beneficial to that individual businessman, and is often detrimental to his competitors and the industry as a whole. Thus the trade association is in a position to provide leadership among its members that will substitute enlightened self-interest for the selfish, destructive practices of old-fashioned individualism.

Some trade associations try to bring this about by attempting to enforce a code of business ethics. A code of business ethics may be well conceived but few trade associations attempt to enforce rules, practices or codes of ethics on the membership. If there is any one principle that is more essential than any other to the successful operation of a trade association, it is the principle of voluntary action. The importance of this has been emphasized by a well known authority on trade associations:

"The Trade Association does not order, it advises. It does not coerce, it persuades. It does not issue mandates, or even instructions. It uses only the moving eloquence of a reasoned appeal to the self-interest of its members. It does not tell its members what they must do. It tells them what, if influenced by a decent regard for their own interests, they will be glad to do. It assumes that its members are intelligent men, that they can think about the problems of their business and that if the facts out of which these problems arise are placed fairly before them, and if the significance of the facts is pointed out, a proper and profitable line of action will result."

## Agitating Processes Discussed

The N.C.A. Processing Committee on Foods in Metal Containers met in Chicago on February 15 to discuss the publication of a bulletin on agitating processes. In view of the increasing use of agitating cookers, it was decided that publication of such a bulletin by N.C.A. would assist the canning industry in obtaining the highest quality consistent with safety.

The Processing Committee appointed a Subcommittee on Agitating Processes to obtain the information necessary for such a bulletin. The Subcommittee will hold its first meeting March 14-15 at the N.C.A. Western Research Laboratory in Berkeley, Calif., to consider in detail the information now available and to plan further research required.

It is anticipated that several years' study may be necessary before suggested processes can be published in bulletin form.

# MEETING OF N.C.A. DIRECTORS

The meeting of the Board of Directors of the National Canners Association at the Convention February 15 was a closed, executive session, at the request of the Directors, expressed at the May, 1956, meeting. Except for the luncheon session, at which Chief Association Counsel H. Thomas Austern made an address, members of the Administrative Council, state secretaries, and trade press editors were not in attendance.

This report of the Board meeting, therefore, contains only a record of official action taken and does not cover discussion that preceded the action nor reproduce the reports submitted by Committee chairmen.

Following the report of Louis Ratzesberger, Jr., Chairman of the Reappraisal Committee, the Board voted continuation of this Committee and its work. Some of its recommendations were carried out in the budget recommended by the Finance Committee and presented by Chairman George B. Morrill, Jr. The budget for 1957, calling for a total of $1,421,791, was approved.

The Board voted to continue the rate of membership dues at the current rate—1/10 of a cent per case for seasonal items and 2/10 of a cent per case for nonseasonal.

The Board voted approval of the report of Chairman B. E. Richmond of the Convention Arrangements Committee to hold the next and future Conventions in accordance with the resolution passed by the Board in May, 1956 (see INFORMATION LETTER of May 23, 1956, page 205). It also approved the Committee's recommendation that a special committee be appointed by the President to consider matters of mutual interest with the brokers.

It was voted that publication of the annual *Canners Directory* be retained as an Association activity but with approval of issuance on an every other year basis, details to be worked out by the staff.

The Board reaffirmed Association policy on marketing orders and agreements and on chemical additives, following reports by J. C. Hemingway, Chairman of the Legislative Committee, and Mr. Austern.

The following other Special Committees were continued for one year: Conference, Procurement, and Convention.

## The More Things Change—Are They Really the Same?

**By H. Thomas Austern,**
**Chief Counsel,**
**National Canners Association**

In reading the New York *Times* for February 1, I found some very interesting headlines.

One of them read:

"The Year Just Closed Was the Most Prosperous in the Country's History."

Another noted that:

"Increased Dividends Were Justified Both by Greater Equities and the Lessened Purchasing Power of the Overworked Dollar."

There was also a striking headline that said:

"Over 10,000 Automobiles are now Registered in New York State."

And the most intriguing one announced, in large type, that a:

"Wisconsin Liberal Proposes a Federal Income Tax."

Forgive me, but I seem to have gotten the wrong year.

That issue of the *Times* was dated February 1, 1907, just two weeks before the National Canners Association was organized by Frank Gorrell in Buffalo, New York, some 50 years ago.

Lately I have been thinking and reading so much about the beginnings of this Association that my mind often slips back and forth five decades to note the striking similarities and the vast differences that exist between the America and the canning industry of 1907, and that of 1957.

It is both interesting and provocative to make those comparisons. With your permission, I shall try to accompany my outline of the present-day political and economic picture with an occasional and fleeting backward glance to 1907.

In doing so, I am not unaware of the hazards of drawing false comparisons: or of Max Beerbohm's famous aphorism that

> "History often repeats itself; historians repeat each other. History when it repeats itself is often interesting; historians are not."

Yet if one wants to shift rapidly from the present to the past, and back again, it is perhaps helpful to paint the background of each period.

Let us begin by looking at 1956. It was a year of new highs in the dollar measures of economic activity. That was true even though some soft spots did develop in the American economy.

The gross national product—that is, the total dollar value of all goods and services produced in 1956—reached the unprecedented high of $412 billion; and personal income rose to $325 billions. Compared with 1955, that was an increase in dollar productivity and personal income of about 6 percent.

Some of these increases in the dollar figures for 1956 can of course be accounted for by rising prices. Still, there were also significant gains in the volumes and tonnages of goods produced in this country.

Perhaps more important, those record highs were achieved during a year in which automobile production dropped almost 25 percent, the number of housing starts was 15 percent lower, and a five-week steel strike also had its impact.

In reviewing 1956, Washington economists are hard put to describe what really happened. You may remember that some years ago they talked about a "rolling readjustment." Some of them now call 1953 a year of "rising readjustment."

The national scene was highlighted or obscured—depending upon your point of view—by events abroad. Your attention was excited and diverted by dramatic happenings in the Middle East, in Hungary, and in Russia, and by the repercussions of those events in many other countries.

All of that occurred while a national election was being held, an election that for the first time since the days of Zachary Taylor resulted in the historical anomaly of a Republican Presidential landslide and yet a Democratic House and Senate.

Despite these diversions, the American people were principally concerned in making their complicated economy run in high gear. The Federal Government spent about $68 billion. It collected some $69 billion in taxes.

The hundreds of federal agencies merrily ground on; and what they did touched the activities of every business large and small. Indeed, their operations in some way affected almost every home and every person in the land.

Yet the fact of a Big Government, with its multifarious rules and regulations and agencies, and its undiminished costs, had almost come to be taken for granted. By contrast, the America of 1907 was a wholly different place. Let us highlight what it was like.

There were no airlines—no long distance telephones—no zippers—no radio broadcasting or television. Practically all goods moved by railroad. Automobiles were few; and electric power was a novelty and usually unavailable in rural canning areas. The population was only 84 million, about half of what we have today.

The Federal Government was not the center of all things. Senators were still elected by the State Legislatures. When 1907 opened, there were only 45 states. Of course, no woman could vote; and unless you

were a wild-eyed suffragette, you knew that they never would.

Unbelievably, there was no sprawling federal bureaucracy. The Department of Agriculture was only a minor agency. There was no separate Department of Labor; no Wage and Hour Division; no National Labor Relations Board; no Social Security agencies. There were no Federal Reserve Banks; no Federal Trade Commission; and some of you might envy the fact that government lawyers were largely an unknown breed.

Even the Food and Drug Administration did not yet exist. The federal Pure Food Law—enacted six months earlier in 1906—was just beginning to be enforced by the Bureau of Chemistry, in which Dr. Harvey Wiley was training his famous Poison Squad.

There was no federal income tax. The entire expenditures of the Federal Government came to only $580 million as against receipts of $665 million.

To glance ahead, what the entire Federal Government spent in 1907 was less than four-fifths of 1 percent of the $72 billion proposed 1957 budget we are going to examine in a moment.

In 1907 the infant canning industry was booming. It packed about 40 million cases, compared with the 650 million case pack of today. Production was generally in balance; and prices were fairly attractive.

Of course, in 1907 consumer prices generally were low, and inflation was not a real threat. Coffee sold for about 40 cents a pound; a good derby hat cost around $2; shoes could be bought for $3; and dresses at 5 to 6 dollars.

Against those prices, I found that in January, 1907, canned tomatoes were bringing $1.05 for Standards; fancy sweet peas were being booked at $1; and Standard corn was selling at 70 cents.

Distribution patterns of course were wholly different. In those days the canners sold futures; put up their packs; shipped them; and then took it easy until the next canning season.

With that system, buyers very often had to scramble for goods. In the August 15, 1907, issue of the *Canner and Dried Fruit Packer*, the trade paper of the day, it was reported that

> "If canned fruits become much more scarce, we will have to look for them in the museums instead of in the jobbers' or packers' warehouses."

But radical changes and improvements in production were in the air in 1907. About half of the industry had been converted to using the new double-seamed, open-end sanitary can. The rest still used the conventional old-style hole-in-cap container.

Labor likewise appeared to be scarce. Over several months the *Canner* carried an ad reading:

> "Wanted: Experienced corn packer—must be sober. State references, terms, etc., in first letter."

Apparently, it was not too difficult to get into the canning business. For another advertisement read:

> "Wanted: Partner with $15,000. For Western canning factory. Old established business and good trade."

There was, however, one interesting historical back echo. Between 1904 and 1906, some corn packers—obviously well ahead of their time—had produced too much canned corn, with the result that selling prices were not too attractive. Therefore in many letters and editorials in the trade papers of the time, conservatism for the 1907 corn pack was suggested.

But except for the new Pure Food Law, which the canning industry had sponsored and strongly supported, no one was concerned with federal regulation—or with federal taxes.

Looking back a half-century, many scholars—with that deep wisdom that comes from hindsight—can now detect the beginnings of the vast network of government regulation of business that we know today. Theodore Roosevelt, the Republican Roosevelt, was then President; and while he had a Republican Congress, he frequently had to wield the "big stick" against the railroads, and what were then called the "trusts."

What was becoming clear in 1907, however, was that the United States was emerging as a world power. Teddy Roosevelt was building up the Navy. Indeed, he caused considerable excitement by asking for $95 million for the entire fleet—with which you might compare the $200 million cost today of the super aircraft carrier "Forrestal."

Still you could read the 1907 daily newspapers from cover to cover, and find no foreign news. Only in the Sunday editions was there any brief mention of events abroad—that the "Russians seemed at last to be ready for revolution," or that "There were riots in Roumania, Hungary and Poland."

I found one Sunday newspaper article with this intriguing and prophetic title:

"Is the British Empire Disintegrating? Author Believes that the Colonies Will One by One Break Away from the Mother Country."

If Americans were interested in 1907 in anything beyond the oceans, it was the Philippines.

Of course there were no columnists, but the favorite Sunday commentator, Mr. Dooley, often excited his readers with the then current and confusing Supreme Court rulings about whether fruits imported from the Philippines had to pay the tariff.

In doing so, he often indicated public awareness of the growing canning industry. For he once said to his favorite foil—"Mr. Hinnissy": "So you think we ought to keep the Ph'lippens, do you—and 'tis not more thin two months since ye larned whether they were islands or canned goods."

And then Mr. Dooley added his famous remark: "I don't know whether the Constitution follows the flag, but I'm sure the Supreme Court follows the illection."

But let us return to 1957—to the present-day Big Economy—and Big Government—and the troubled world in which we live.

Everyone is of course interested in the economic prospects for 1957. Despite the financial pages, there are still many optimists in Washington. They point out that the peak business activity at the end of 1956 has carried over into 1957. They derive great hope from the vast plans for continued capital investment by industry. They point to the constantly increasing population.

Indeed, for the first time the Economic Report of the President, which he submitted to Congress on January 23, contains an interesting new section on "Population Changes and Prospects." As that study points out, although in 1946 it was anticipated that we would have a population of only 153 million in 1960, we have long since exceeded that figure; and that by 1960 the American population will approach 180 million.

I have often suggested what these population figures mean for the food industry—and how every alert processor ought to measure his business progress against these accelerated increases in the number of consumers. As a simple yardstick—if in the next three years our population will increase by another 13 millions, at the present per capita rates of consumption that means an increase in demand of over 55 million standard cases of canned foods.

Even back in 1907 the people were interested in increased population. Our friend, Mr. Dooley, once observed that: "If the highest dooty of citizenship is to raise a family—why don't we give a vote to the shad?"

If our American economy can be maintained at the present rate of business activity throughout 1957, there can be no doubt that it would be the best year on record.

But it is not difficult to find, both in Washington and in other places, some who are afraid that things are simply too good to last, and that at least some downward adjustment is in the offing.

What will not go down are the expenditures of the Federal Government. President Eisenhower has proposed a $72 billion budget. A big, bulging economy seems inescapably to demand a big budget.

If you exclude the Korean episode, the budget sent to Congress last month is the largest peacetime one in our entire history. It exceeds the budget for the present fiscal year by more than $3 billion.

As most of you know, there is some doubt whether Secretary Humphrey sees eye-to-eye with the President on that proposal. Some weeks ago, in the Washington *Post*, the cartoonist Herb Block focused that issue vividly. He depicted President Eisenhower presenting the budget to Congress, and saying, "Here's what we want;" while off to the side Secretary Humphrey was enthusiastically handing to Congress a large pair of scissors.

On that, too, you can find curious historical echoes. Fifty years ago the Democrats were criticizing a Republican Congress for gross extravagance in having spent about 600 million in one year. Yet only last week some business groups were appealing to the Democrats in the present 85th Congress in the hope of curbing the spending requested by the Republican Administration.

But once again how to cut down on that proposed federal budget is very hard to determine. More than 60 percent of it, an amount in excess of $40 billion will go for national defense and collective security. Another 10 percent, or over 7 billion, is required for interest on the public debt. Veterans benefits take $5 billion; and about the same amount will be spent for agriculture alone.

If we turn the clock back for a moment, that mushrooming in size and cost of the Federal Government can be dramatically seen. In the next fiscal year the Federal Government is expected to spend about $72 billion, and to take in something over 73½ billion. Fifty years ago, in 1907, the Federal Government spent far less than one percent of that amount.

Let me make one more comparison, perhaps nearer to home. In 1907 all expenditures for agriculture came to $9½ million. In the proposed present budget, the net expenditures for agriculture come to $4.8 billion or more than a 500-fold increase since 1907.

Consequently, no one anticipates that either corporate or individual taxes will be reduced in the coming session of Congress.

What many people do fear is that booming business, possible new wage increases, and resulting higher prices, may bring an uncontrollable inflation. In recent press conferences, President Eisenhower mentioned—but let me make it clear that he did not immediately propose—that if all other measures failed, there might again be need for federal control of wages and prices. Up to now we have had those only in wartime.

Your pessimism or optimism about business prospects probably also controls your point of view in the current argument about tight money.

Don't forget that the fiscal brakes have been on for many months. It is no accident that money has become tight, and interest rates high. The Federal Reserve Banks have raised the rediscount rate six times in the past two years. They did so to curb

H. THOMAS AUSTERN

borrowing and to slow down the booming economy.

As its Chairman recently said, the Federal Reserve Board "was in the position of the chaperon who ordered the punch bowl removed just when the party was really warming up."

Many of you know the result: Though the volume of money now out on loan is at an all-time high, credit is exceedingly tight. The Government has to pay more to borrow. Commercial interest rates have risen to a 20-year high. Many people, certainly the poorer risks, can't borrow a dime.

Congress is very restive about that tight money policy. A full-scale investigation of Administration fiscal policies and these high interest rates is in the offing, to be chairmanned by Congressman Patman.

Few of us are wise enough to resolve these questions; or indeed even to penetrate the complicated issues and talk about rediscount rates, open market sales of Treasury securities, and proper bank reserve requirements. While we know that what happens has immediate and important effects upon every canner, perhaps we ought to appreciate that the governmental job of trying not to upset the prosperity applecart, and yet at the same time to apply enough controls to prevent a runaway inflation, is a difficult, delicate, and dangerous task.

As our friend Mr. Dooley observed way back in 1907, "When you wallop a silver dollar with a hammer, you may be 'knockin' th' Gover'mint'."

Most people do not expect the present Congress to make many legislative changes. In the antitrust field, it is probable that the bill to require advance notice of mergers will be finally enacted. Once again a stiff fight is anticipated on the proposals to change the Robinson-Patman Act to restrict the meeting of competition.

On the farm front, Secretary Benson has asked for a modified and double-barrelled corn program; and it may well be that the perennial proposal for marketing order authority over some canning crops will again emerge. It is also not unlikely that there will be a renewed attack upon the existing exemptions for the processing industry contained in the federal Wage and Hour Law.

In the Food and Drug field, you can expect a renewed Administration proposal for a bill requiring prior approval for the inclusion of any chemical additive, or the addition to a food of any ingredient whose possible toxicity is unknown. In addition, Food and Drug has asked for, and many expect that it will get, a large increase in its appropriation so as to permit a stepped-up campaign of enforcement and standardization.

Here, too, we run the full circle back to 1907, when you will remember enforcement of the federal Pure Food Law first began.

But enough of trying to turn time backward in its flight. The strking differences and many similarities that bridge five decades are by now perhaps clear to you.

Your world today is different—vastly different in size—and wholly different in complexity.

The population you serve has doubled; the packs you produce have increased 13-fold; and the Government you support has become truly gigantic. The massive income taxes you pay have long since lost the charm of novelty.

Along with the big and ubiquitous Federal Government has come a complexity that is truly challenging. Today those who are responsible for managing a canning company must know a wide variety of subjects for which not even the vocabulary existed in 1907.

They must be familiar with the federal farm program, with its price supports and acreage controls; and

they must know about Wage and Hour regulations, transportation taxes, income tax and social security deductions, ICC rules on trucking, food standards, and pesticide tolerances, as well as the Robinson-Patman Act and the myriad of other laws regulating business conduct.

That complicated maze of governmental do's and don't's would have seemed well-nigh incredible, if not impossible, to your business predecessors.

Even more important, the canner of 1957 must master, in a fashion undreamed of 50 years ago, the problems of financing a pack throughout the entire year, and every detail of the marketing, distribution, and promotion of his products to the ultimate consumer.

In this bigness of Government and this complexity of ordinary business life, lie the real differences between 1907 and today.

Yet there are still striking and fundamental similarities. In the talk and writing in the year this Association was founded, the constant call was for men of energy, courage and competence.

They always looked ahead. Indeed, a long time ago one of the pioneers in this industry wisely said: "Any man who doesn't believe that the methods we use today will change and the machinery we employ today will be replaced within 10 years, should himself now be immediately displaced."

Above all, those pioneers of 1907 had an abundant and abiding faith in the future of their industry.

Today also the future of the canning industry is bright with promise. In celebrating 50 years of achievement, the keynote phrase you will find bannered throughout this Convention is "Look to the Future."

Perhaps that confident theme confirms what most of us would like to believe: That the National Canners Association has both led and effectively set the pace for the growth of the industry. That its expanding services have helped canners to cope with the complexities of Big Government.

And that its research has contributed to the splendid achievements of this industry over five decades, through two world wars, in good times and bad, in bringing the harvest of the fields and the catch of the sea to a constantly increasing number of Americans.

There is an old French proverb, "Plus ce change, c'est la meme chose" —the more things change, the more they are the same. As the future unfolds, there will inevitably be further vast changes—and many demanding new challenges. I am confident that the canning industry—and its trade associations—will surmount each of them with courage, confidence, and splendid success.

## H. T. Austern on 25 Years of Service to N.C.A.

In introducing N.C.A. Chief Counsel H. Thomas Austern, prior to his address to the Board of Directors, President William U. Hudson praised his loyalty, conscientiousness, industriousness, and ability. Mr. Hudson brought out the fact to the Directors that Mr. Austern's first N.C.A. assignment was given him on January 3, 1933, and that his service to the Association therefore comprises 25 continuous years, or one-half the life of N.C.A.

Mr. Austern accordingly added the following comment to his address to the Directors:

President Hudson was kind enough to mention the 25th anniversary of my being privileged to serve N.C.A. as legal counsel.

He gave that event an air of significance hardly warranted by the facts.

But both professionally and personally, serving as counsel to this Association has been the greatest good fortune and the most gratifying experience ever offered to any lawyer.

It enabled me to know, to learn greatly from, and come to admire and to love Frank Gorrell, as well as each of the splendid men and women who make up N.C.A.

It offered me the privilege of knowing over the years many of the men who developed this great industry. It brought me, as a happy addition, the gift of their friendship.

I hope that I always tried to honor that opportunity by following the command in Ecclesiastes: "Whatsoever thy hand findeth to do, do it with thy might."

But while it is often the lawyer's lot to irritate, he ought never be grim. Nostalgia—like smoke—can be suffocating. No one in this room is really so old that he should ever succumb to it. We must never admit that Joel was right in saying that "Old men shall dream dreams, but only young men shall see visions."

So to Carlos and my contemporaries, I say, "Let us not lament." We, too, can look to the future. Only for long deferred and much later use should we recall what Ralph Barton Perry once quoted from an obscure Sunday school poet:

"King David and King Solomon
Led merry, merry lives,
With many, many concubines
And many, many wives.

But when old age crept over them,
With many, many qualms,
King Solomon wrote the Proverbs
And King David wrote the Psalms."

## N.C.A. Publicity Activities at the Convention

A Press Room and Duplicating Room were maintained by N.C.A. during the Convention for the benefit of the 100 or so newspaper, magazine, wire service, radio and TV representatives covering the event.

Copies of the 25 Convention speeches, summaries, reports and statements were available there along with 15 special news releases written by the Information Division during the Convention and 10 advances that had been prepared in Washington previously. Photos and biographies of the speakers and officers were issued also, and the Information staff assisted reporters and cameramen with background information and in other ways. The staff also supervised the taking of 35 news photos of Convention personalities, events and atmosphere and captioned these for release at the Press Room. Special mailings were made to 140 publications unable to personally cover the event.

The Press Room also distributed special 50th Anniversary Kits, containing material jointly prepared by the Information Division and the Dudley-Anderson-Yutzy staff, to trade and consumer paper representatives.

### Radio Programs

J. Roger Deas of American Can Company paid tribute to the canning industry in radio interviews twice during the Convention—on the Bob Elson news show over Station WCFL, Thursday, February 14, and on the Tony Weitzel Show, Saturday, February 16, from Station WBBM.

Convention features also were broadcast on the program The McCanns at Home over New York Station WOR and on Tom Waber's program over Station WXYZ, Detroit.

### Bridges on Television

Charles S. Bridges, president of Libby, McNeill & Libby, and a member of the N.C.A. Administrative Council, appeared on the program "This is the Midwest," Sunday, February 17, on Chicago Station WBBM-TV along with Chancellor Lawrence A. Kimpton of the University of Chicago. The dialog brought in the 50th anniversary of N.C.A. and the new industry film "The Three Squares" was used in part.

## Convention Proceedings

*(Concluded from page 46)*

million dollar industry. Highly perishable commodities are converted into nonperishable, easy-to-handle forms. The canning industry is not only an important source of food for consumers, but also provides an essential marketing channel for thousands of farmers as well as for many fishermen.

*Fred W. Hatch*—Your control laboratory staff, working in cooperation with your fieldmen and taking full advantage of the research and testing programs of the chemical industry and your state experiment stations, should insure closer processor-grower relationships. You will probably find it advantageous to develop a policy of issuing definite specifications to your growers as to what pesticides should be used and what spray schedules should be followed. Supervision of the pesticide practices of your growers, coupled with adequate control facilities, should insure to your industry a higher quality pack. Therefore, since your washing and cooking procedures minimize or eliminate all raw-product residues found in permissible quantities, a really significant sales advantage should result for your products. The revolution we have seen during the past decade in farming practices and the advances achieved in canning technology and nutrition have resulted from cooperative research between your industry, the chemical industry and the federal and state agencies. This effort must be continued and expanded at all levels, utilizing every available facility to the fullest extent possible. Together we will inevitably have to urge expansion of the educational institutions on which we must depend to supply technical man-power for continued growth.

### Closing General Session

*Introductory Skit*—A mind-reading act with audience participation, and animated caricatures of speakers.

*Film.*—Showing of the N.C.A. color and sound movie, "The Three Squares," with introduction by President Hudson, disclosing that the N.C.A.-D.A.Y. prints have been shown more than 100 times, and that the U. S. Department of Agriculture is about to announce a recapitulation of the showings from the 100 or more prints that have been borrowed from their Film Libraries as well as the 40 or more black and white prints made for television showings.

*Installation of Officers*—Officers-elect were called to the platform and installed. President Brown announced the personnel of the 1957 Finance Committee and recognized Past President Howard T. Cumming, who presented Retiring President Hudson with a silver bowl.

### Marketing and Sales Session

*President-elect Brown*—The more effectively the marketing function is performed by a firm, the more easily will it be able to adjust to new market conditions. In recent years, increased attention has been devoted to marketing in all of its aspects by the industry and the Association. The stand taken with respect to proposed restrictions on marketing functions can be summed up in one sentence—Free markets are the hope of economic advancement.

*William R. Gillen*—reported on a study made by BBDO in New York State showing that 20 percent of the housewives surveyed do not save trading stamps, and that 80 percent do save. The study measured why housewives save trading stamps and why they do not, how long they save trading stamps, what they obtain when redeeming the stamps, and other data about housewives' attitudes toward trading stamps and premiums. Younger women tend to be more active in saving trading stamps and premium credits than older women. Many people in the older age brackets never have saved them. The saving of stamps appeared to decline as family income increased.

*Mrs. Marie Kiefer*—outlined plans for a food store promotion to be conducted in August and September by members of the National Association of Retail Grocers and the *Saturday Evening Post*. Three main features of the nation-wide promotion are: (1) Advertising in the "Spectacular" section of Saturday Evening Post, September 14, 1957, issue, (2) Advertising in the August, 1957, issue of *NARGUS Bulletin* which will be the special "spectacular" number, and (3) The participation in the point-of-sale material in at least 100,000 stores.

### Food Editors Conference

Final program of the Convention, on Tuesday, February 19, began with a luncheon to nearly 100 women food editors of magazines, newspapers, radio and television programs and to home economists in business. Hosts at the luncheon were members of the N.C.A. Committees on Consumer Service, Consumer and Trade Relations, and the Board of Directors.

## Convention Publications

Several publications were prepared and distributed at the 50th Anniversary Convention. These were:

*The Convention Program*—A 32-page pocket edition, designed, written, compiled and produced by the Information Division, giving the daily schedule of meetings from February 14 through 19, with details of programs for the general sessions and technical conferences of the N.C.A. and the C.M.&S.A. A special four-page introductory section presented a brief history of the N.C.A. and a thumbnail characterization of its services.

*Convention Room Directory*—A 136-page pocket edition giving the hotel room locations of members of the N.C.A., C.M.&S.A., N.F.B.A., headquarters of state and regional canners associations, locations and non-canner principals of N.F.B.A., and of all others housed by the three sponsor associations. This also carried floor plan of the C.M.&S.A. Exhibit, and schedule of the showings of industry films that were continuous throughout the Convention. This publication was produced by the Information Division from data supplied by the housing executives of the three sponsor groups and was printed by courtesy of the Chicago Convention Bureau.

*Golden Anniversary Banquet Program*—A 36-page Souvenir Program and Seating List for the 50th anniversary commemorative banquet, prepared by the Office of the Secretary and the Information Division. This gave a brief history of N.C.A., details of the menu and program, and the seating list by table and by alphabetical sequence.

*The First Three Years of the N.C.A. Consumer and Trade Relations Program*—A four-page pocket leaflet depicting graphically the yearly expenditures (exclusive of individual canning firms) on canned foods promotion since 1950, showing the pronounced gain in this activity, by all sponsors, since inauguration of the C.&T.R. program. This was prepared by the C.&T.R. operating staff in the N.C.A. and D.A.Y. personnel and distributed in the mailboxes at the major Convention hotels.

*Table Tents, Menu Cards, Menu Clips*—Items saluting the 50th anniversary of N.C.A. and announcing that canned foods were being served in the major Convention hotels. This was a joint project of the Convention Program Committee and the C.&T.R. Operations Committee. The literature was furnished to the hotel managements and widely used by them during the Convention.

*The Golden Age of Canning*—A 20-page pocket leaflet, prepared, published and distributed by the C.M.&S.A. detailing the 50 years of progress in public service performed by canners and their supplymen, the rising trend of production and per capita consumption, and numerous details about the virtues and values of canned foods and the industries that make them possible.

Following the luncheon, professional entertainers presented a skit of 50 years of Americana, and then, with Katherine R. Smith, Director of the Consumer Service Division, as chairman, the following speakers and subjects were presented:

*Carlos Campbell*, Executive Secretary of N.C.A., told the ladies about the history of the organization, and its leadership in research on convenience factors and quality products for the kitchen manager. Pointing out that of the $70 billion spent annually for food, roughly $40 billion is for preparation and distribution, he said that "well over half of the nation's food bill is for service and this trend will continue." Production and consumption of canned fruits and vegetables, he stated, have been gaining faster in the past 10 years than has fresh fruits and vegetables. "The greater economies in processing and distribution of food through canning have been an important factor," he said.

*Dr. Conrad A. Elvehjem*, University of Wisconsin nutritionist, spoke about the high retention of nutrients in canned products. "The canning industry early recognized the need for a thorough survey of the levels of the different nutrients in canned foods," he said. He cautioned them, in drawing comparisons of the nutritive values of foods, to always make the comparison on the basis of "the food as consumed. To enjoy wide use, food must be liked, regardless of how rich it may be in nutrients" and he stated that "the distasteful can be replaced by the tasteful and yet provide the essential nutrients."

*Morton Adams*, Alton Canning Company, Alton, N. Y., Chairman of the N.C.A. Raw Products Technical Advisory Committee, told the food editors about several recent innovations derived from research on canning crops—crackless tomatoes, uniform color in carrots, apple trees trained to grow no higher than a ladder, a new automatic snap bean picker, methods of accurate harvest time calculation. Mr. Adams emphasized that canners crops are different from ordinary crops, that special research is done to produce raw products specifically for canning.

*E. A. Meyer*, New York City, vice president of the Richmond Chase Company of San Jose, Calif., and Chairman of the Consumer Service Committee of the N.C.A., emphasized the continued progress the canning industry makes in the quality development of its products. "Glass containers are lighter in weight, more serviceable, attractive and tougher. The caps and closures are easier to remove. Metal cans are stronger, have better linings, and every year more key-opening cans are used. Through constant research and experimentation, foods are now processed in a shorter period of time, sterilized in a better way, cooled more quickly, all of which results in more nutritious canned foods with better flavor and color." Mr. Meyer called the roll of recent new canned foods products: Concentrated orange juice increased in 10 years from ⅛ million gallons to 70 million; applesauce, apple juice, and sliced apples from 10 million to 20 million cases in 10 years; pie fillings, practically unknown in 1946, now a volume item; one baby food canner was making 37 varieties —now it is 77; during the last 10 years the industry has introduced a wide assortment of dietetic fruits and vegetables.

*R. C. Cosgrove*, LeSueur, Minn., vice president of the Green Giant Company and member of the Consumer and Trade Relations Committee of N.C.A., defined the canners' operation as that of bringing the products of the farm to the table of the consumer and the function of the food editor as that of communicating information between the farm and the consumer. He pointed out many ways in which canners can improve their service even more: more descriptive labeling; working out more food combinations; improving can openers; developing kitchen equipment that will dispense cans; developing can sizes to the convenience of consumers; helping food editors with the answers to inquiries from readers; opening more of their canneries and laboratories to visits by food editors.

*Nelson H. Budd*, Information Director of N.C.A., described the various ways in which use of canned foods is promoted by the industry. The categories he cited were individual canners advertising and publicity, $73,305,000; the N.C.A. program, $325,000; state canners associations, $70,000; specific commodity promotions by groups, $7,100,000; promotions by suppliers to the canning industry (container manufacturers, steel companies, etc.), $7,500,000. "Altogether, the estimated annual total is approximately $88,300,000, or about 2.9 percent of the annual value of the product at the canner level," Mr. Budd stated.

*W. R. Simmons*, New York City, president of W. R. Simmons & Associates Research, reported on a survey of consumer acceptance of canned seafoods conducted for the U. S. Fish and Widlife Service. He stated that 91.4 percent of American households used canned fish, and that the canned is not competitive with fresh or frozen fish, which compete with each other rather than with canned. About half of the users of canned seafoods were found to be "regular" users. More than two-thirds of servings take place in metropolitan areas. That canned fish is neither an economy food nor a luxury food was indicated by its substantial usage in the $3,000 to $5,000 middle income groups, he stated.

The meeting closed with presentation of the food editors, by President Brown of a souvenir long-playing record giving highlights of the past 50 years.

## Water Supply Exhibit

The Waste Disposal Section of the N.C.A. Washington Research Laboratories staged an exhibit at the Annual Convention depicting "The Water Supply and Pollution Problem Today —These are the Problems Dealt with in the N.C.A. Waste Disposal Program."

The exhibit was made possible through the courtesy of the U. S. Public Health Service in supplying 12 posters dealing with this subject, and of the Canning Machinery and Supplies Association in donating the space required, as a public service.

The exhibit as a whole presented an effective story of these industrv problems and solutions, pointing up progress already made as well as the need for further research on the pollution problem.

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